TEXT ENHANCEMENT AND THE ACQUISITION OF ENGLISH VERBAL MORPHOLOGY BY L1 HAITIAN CREOLE SPEAKERS

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INTRODUCTION

Recent second language acquisition (SLA) empirical studies have accepted the central role of attention in learning as a foundation for their research and have therefore explored different ways of directing learner attention to problematic input areas. The bulk of this research has demonstrated the effectiveness of including specific forms in the input salient to direct learner attention to them (Berne, 2000; Carroll & Swain, 1993; DeKeyser, 1995; Greenslade, Bouden, & Sanz, 1999; Jensen & Vinther, 2003; Sanz & Morgan-Short, 2004; Sharwood Smith, 1993; VanPatten & Cadierno, 1993). One specific approach to concentrate learner attention on form in the written input is known as textual (typographical or visual) enhancement. The aim of textual enhancement is to specifically draw learner attention to the problematic feature in order to achieve an integration of attention to form and meaning. This implicit and unobtrusive means of enhancement (Doughty & Williams, 1998) employs different techniques to increase the perceptual salience of the problematic target forms embedded in the reading passage: the use of color, italics, boldface, highlighting, capitalization, underlining, larger type sizes, different typefaces, and other perceptually salient features. Five previous studies have demonstrated the facilitative effect of textual enhancement on the development of learner Interlanguage (Doughty, 1991; Jourdenais, Ota, Stauffer, Boyson, & Doughty, 1995; Leeman, Arteagoitia, Fridman, & Doughty, 1995; Shook, 1994; Williams, 1999). However, only one of these five studies has investigated variables and linguistic forms in L2 English (Doughty, 1991), and no studies, to the best of my knowledge, have explored the way in which nonacademic adult learners can focus attention on form and meaning with the help of text enhancement. The paucity of available research on the effects of text enhancement on the development of L2 learners' linguistic systems calls for further investigation.

Moreover, even though the above mentioned studies exploring the role of input enhancement and textual enhancement in particular are framed in the context of the Generative Grammar approach to SLA that relies on the innateness of linguistic knowledge, these studies do not attempt to explain the experimental results within this linguistic approach. In order to contribute to a fuller understanding of second language acquisition processes, this doctoral research aims to bridge the gap between SLA and language pedagogy by relating Input/Interactionist and Generative Grammar (in its most recent manifestation, the Minimalist Program) frameworks.

Specifically, this doctoral research will investigate the potentially facilitative effects of textual enhancement on the acquisition of the target language verbal morphology by a population that, to date, has gone uninvestigated: adult L2 speakers of English with limited classroom experience who have been exposed to the target language over a long period of time and who have failed to acquire numerous linguistic features via naturalistic aural input. Its particular target group are native speakers of Haitian Creole, the greater number of whom have moved to New Orleans, Louisiana, directly from Haiti though some relocated to New Orleans from New York and others from Florida at different times. On the average, the participants of the study have lived in this country for fifteen years, and have been exposed to English conversational forms in their occupational positions of taxi drivers and hotel housekeepers.

In light of the greater need for research on the role of attention in SLA, and in consideration of the inconclusive nature of the previous studies which investigated the effect of text enhancement, the study reported in this dissertation aims to contribute further to the understanding of second language acquisition processes by investigating the role of attention in input processing via a controlled experimental study in the written mode. Specifically, this doctoral research builds on earlier studies and concerns the issue of whether and how textual enhancement promotes the acquisition of two English grammatical forms: the verbal bound morpheme –*s* (3PS) and a free future-reference morpheme *will*.

Chapter 1 will discuss the role of attention in SLA and explore the previous research on input enhancement in general, and text enhancement in particular. Chapter 2 will discuss the current models of SLA and input processing along with the theoretical framework of Universal Grammar. Chapter 3 will present the research methodology used, including rationales for and descriptions of the treatment and assessments tasks, data collection procedures and data analyses. This chapter will also review the relevant literature on the targets of the study—English 3PS and *will*-future. The results of the study and the statistical analyses conducted on the obtained data will be reported in Chapter 4. Finally, Chapter 5 will discuss the findings, implications, and limitations of the study, and present suggestions for future research. Materials created and used in this doctoral research, as well as individual subject information, appear in the Appendices.

CHAPTER 1

THEORETICAL AND EMPIRICAL FOUNDATIONS OF INPUT ENHANCEMENT

1.0 Introduction

This chapter will provide a general background on the issues of SLA input enhancement, particularly its role in language acquisition. The first section will discuss the issue of attention in SLA and will include research that suggests a tension between attention to form and attention to meaning. The next section will discuss explicit versus implicit learning, with a concentration on focus-on-form research. The final section will explore the textual enhancement technique of SLA research, the focus of investigation in this study.

1.1 Attention in Second Language Acquisition

A general finding of current research in SLA and in cognitive psychology is that attention plays a crucial role in mediating input and learning. Despite agreement on the importance of attention (Robinson, 1995; Schmidt, 1990, 1995, 2001; Sharwood Smith, 1981, 1993; Tomlin & Villa, 1994), disagreement exists as to the amount and type of attention needed for acquisition to occur. One position, the Noticing Hypothesis, claims that “noticing” (the process of bringing some stimulus into focal attention, whether consciously or subconsciously) will allow language learners to pay attention to the formal features of the input (Schmidt, 1990, 1995, 2001). Another position holds that “noticing” is not a necessary component of attention and that instead detection, “the process that selects, or engages a particular and specific bit of information” (Tomlin & Villa, p. 192), is the core of attention. A third position asserts that different tasks demand different types of cognitive processing and that “noticing” is what is both detected and activated as a result of attentional resources from a central executive (Robinson, 1995). Even though the issue of “noticing” and detection remains unresolved, the growing body of research in SLA has demonstrated that a greater degree of attention to linguistic input promotes language acquisition (Jourdenais et al., 1995; Leeman et al., 1995; Leow, 1997; Rosa & O’Neill, 1999).

An empirical study that has significantly impacted attention research in SLA is that of VanPatten (1990). This study explored a key issue surrounding attention in SLA: whether or not L2 learners can simultaneously attend to form and meaning while processing input. Motivated by findings in cognitive psychology that humans have a limited attentional capacity for dealing with incoming stimuli, VanPatten hypothesized that form and meaning would compete for attentional resources during input processing. VanPatten postulated that learners process input for meaning before they process it for form and that conscious attention to non-communicative grammatico-morphological forms in input would negatively affect content comprehension, although attention to lexical items would not affect comprehension. In his study, VanPatten asked 12 groups of subjects representing three levels of language proficiency to process information under four conditions: 1) attention to meaning alone; 2) attention to meaning and a key lexical item *inflación* (“inflation”); 3) attention to meaning and a grammatical item; and 4) attention to meaning and a verb form.

A total of 202 university level L2 Spanish subjects listened to a taped passage regarding the problem of inflation in Latin America. The subjects who were processing input in conditions 3) and 4) attended to the definite article *la* and the third-person plural verbal morpheme *–n*, respectively. The choice of the two grammatical items was determined by the difference in their structural properties and communicative value: a syllabic free morpheme *la* and a non-syllabic word-final bound morpheme *–n*. The results of the statistical analyses revealed a significant drop in recall when the subjects were asked to simultaneously attend to content and a grammatical morpheme of little referential meaning. VanPatten found that conditions 1) and 2) produced the highest recall scores, but with no significant difference between them. Nor was there any significant difference between conditions 3) and 4). However, there was a significant difference between condition 1) and condition 3), between condition 1) and condition 4), between condition 2) and condition 3), and between condition 2) and condition 4).

The results of the experiment supported the initial hypothesis that attention to an important lexical item would not affect content comprehension, whereas attention to grammatico-morphological forms with little communicative meaning would negatively affect comprehension. As suggested by VanPatten (1990), attention is directed toward meaning or informational content and grammatical morphemes of little meaning may be left unattended. In contrast, communicatively laden items in the input receive learner attention and become available as intake for the developing language systems. The results also demonstrated that higher recall scores were associated with higher learner proficiency level, a result which offered evidence that only when input is comprehended can learners attend to specific forms as part of the acquisition process.

Several issues have been raised with reference to VanPatten’s (1990) study: (1) What, if any, is the effect of input simplification on the acquisition of form and meaning? (2) What is the role of modality (written or aural) in the acquisition of particular forms? (3) How can learners attend to form and meaning at the same time? (4) What causes certain forms to be more salient than others? These questions have generated recent research of particular interest to this study.

Berne (2000) replicated VanPatten’s (1990) original design to explore the effect of enhanced comprehensibility of input on learner ability to attend to both content and form during input processing. A total of 155 learners of Spanish at two university levels of language proficiency participated in the study. Closely following VanPatten’s methods and procedures, Berne modified the original oral passage to make it more comprehensible to the subjects. Among the modifications employed to enhance the comprehensibility of the passage were: synonym substitution, division of long sentences into several shorter sentences, and sentence word-reordering. Berne’s findings confirmed VanPatten’s results and supported the hypothesis that language learners experience difficulty focusing attention simultaneously on form and on content even if the input has been modified in order to make it more comprehensible.

Several studies have expanded the scope of VanPatten’s (1990) and Berne’s (2000) research by exploring the effect of the written mode on attention to meaning and form (Greenslade et al., 1999; Leow, 1997; Wong, 2001). Greenslade and his colleagues partially replicated VanPatten’s study to examine whether the original findings in the aural mode would be retained in the written mode. The participants in this study were 62 third-semester college level L2 Spanish learners who read the written version of the same passage used in VanPatten’s original aural-mode study. The three original tasks were used in this study (content + key lexical item *inflación*, content + *la*, and content + -*n*) to assess input processing in the written mode.

Citing findings on the effects of modality as an independent variable and on the way increased attention to form can reduce comprehension in the written mode, Greenslade and his colleagues (1999) emphasized the need to address the issue of interaction between modality and cognitive processing in L2 acquisition. The evidence in the domain of psychology and L1 acquisition to which the researchers referred suggests that attentional constraints during input processing may not be the same for the aural and the written modes. Readers may exercise greater control over written input as compared to aural input, since it is often problematic for L2 learners to distinguish word boundaries and discriminate between bound and free morphemes in the aural mode. In other words, written enhanced input might help learners distinguish between such bound morphemes as tense, person, or aspect markers affixed to a verb stem and such free morphemes as articles and prepositions.

The results from Greenslade et al. (1999) mirrored those reported by VanPatten (1990): L2 learners process input for meaning before they process it for form. Alternatively, Greenslade and his colleagues applied broader conclusions regarding the interaction of attention and comprehension in the move from the aural mode to the written mode. In the written mode, attention to a grammatical item adversely affected comprehension, whereas attention to a lexical item did not appear to have a significant negative impact on comprehension. In other words, in the early stages of L2 acquisition, input is first processed for meaning via lexical forms. Moreover, only after comprehension processing is automatized, do additional attentional resources become available to focus on morphological forms.

In another partial replication of VanPatten's (1990) original study, Wong (2001) addressed the effect of modality on attention to meaning and form. The design of this study differed from that of Greenslade et al. (1999) in that it directly compared the written and aural modes within the same research design and focused on the acquisition of English as a foreign language. The participants in this study were 79 low-intermediate L1 French college-level students of English at Université Laval in Quebec. Due to the availability of subjects, Wong used only one level of learners and omitted the condition of attending to meaning and to a bound morpheme. She implemented six conditions to explore the effects of directed attention in both the aural and the written mode: 1) listening to the passage for content only; 2) listening for content while attending to the content word *inflation*; 3) listening for content while attending to the definite article *the*; 4) reading the passage for content only; 5) reading the passage for content while attending to the content word *inflation*; 6) reading for content while attending to the definite article *the.* The passage that VanPatten had used in his original study was translated into English and used for both conditions. The results of the aural mode conditions mirrored those of VanPatten's original study: comprehension was significantly inhibited by increased focus on the grammatical item (*the*); comprehension was not inhibited by increased focus on the lexical item (*inflation*). In the written mode, there was no significant difference in recall between readers who attended to content only and those who attended to content and to the key word *inflation*. However, attention to the grammatical item (*the)* did not have a detrimental effect on comprehension.

The finding that simultaneous attention to form and meaning did not significantly impede reading comprehension contradicted the results found by Greenslade et al. (1999). Wong (2001) agreed that there was no straightforward explanation for this inconsistency and called for further research. However, she suggested that a possible reason for this discrepancy was that learners had greater control over input in the written mode than they did in the aural mode. In other words, Wong suggested that modality is a variable that influences the way learners process input.

As mentioned earlier in this chapter, one of the differences between processing aural versus written input is the way word and phrase boundaries are perceived. Paragraph, sentence, and word boundaries are more easily perceived in the written input than in the aural mode. Even though attending to prosodic and intonational cues can assist listeners to segment speech, learning such cues is considered an overwhelming task for beginning language learners (Lund, 1991), and pragmatic factors of interactional context constrain listeners more than they do readers during comprehension. Another important issue that differentiates the two modes concerns controlling the rate of processing. The rate at which listeners process the input depends on the rate at which it is delivered (Ferreira & Anes, 1994); in contrast, readers control how much and how fast they process visual input. In addition, readers can choose which features of the input they can reread, focus on, or ignore.

It follows then that although L2 learners must develop comprehension skills for both modalities, learners would be more likely to process form while reading than while listening since comprehension of written input places fewer demands on them, and readers would have less difficulty processing form and content in the input than would listeners (Leow, 1997; Wong, 2001).

1.2 Focus-on-Form Instruction

The results of the studies discussed above have implications for the focus-on-form SLA research, which is intrinsically related to the present study. Long (1991) coined the term focus-on-form (FonF) to refer to pedagogical techniques that draw learner attention to form during communication-oriented instruction as opposed to traditional focus on forms (FonFs)[1] techniques which focus on teaching isolated linguistic forms. In Long's initial use of the term, FonF would include pedagogical practices that would direct learner attention to the formal features of the target language "as they arise incidentally in lessons whose overriding focus is on meaning, or communication " (Long, 1991, pp. 45-46). However, researchers today (Doughty & Williams, 1998; Spada, 1997) use the term in a broader sense, having expanded it to include both proactive (selecting in advance a target to focus on) and reactive (handling various learning difficulties as they arise) types of intervention that focus on particular features in the input so that neither form nor meaning is compromised.

Ellis (1994) has proposed that there are three ways to learn a second language depending on the requirements of the learning situation and that adult learners are likely to engage in all of them. Adults can learn explicitly: (1) via rules (assimilating rules; following instruction) or (2) through selective learning (searching for information, and building and testing their own hypotheses). On the other hand, they can learn implicitly (3) by focusing on relevant features of the input without any metalinguistic discussion. Doughty and Williams (1998) further claim that there are different ways to teach which range along the explicitness continuum and that the success of teaching will depend not only on the implicit/explicit dichotomies but on other factors as well, including integration of attention to form and meaning. According to Doughty and Williams, the aim of explicit instruction is to direct learner attention while the aim of implicit instruction is to attract learner attention and to avoid metalinguistic elucidation which, in turn, minimizes the interruption of the meaningful communication. Table1.1 below summarizes the elements associated with implicit and explicit learning conditions.

Table1.1 Implicit and Explicit Language Learning (Doughty & Williams, 1998, p. 230)

Domain	*"Implicit"*	*"Explicit"*
IL knowledge (mental representation)	• Innate (universal) • Intuitive • Example-based	• Explicit (analyzed; language-specific) • Rule-based
Access to and/or use of IL knowledge	• Automatic (effortless) • Fluent, skilled	• Deliberate (effortful) • Halting
Learning Analysis Hypothesis testing Cognitive comparison Noticing gaps or holes Restructuring	• Inductive • Incidental • Inherent • Unaware • Imperceptible	• Deductive • Intentional • Aware • Noticed
Attention	• Attracted • Unconscious	• Directed • Conscious
Development of control	• Experiential • Automatized	• Practiced • Proceduralized
Teaching intervention	• Unobtrusive or none	• Overt • Obtrusive • Metalinguistic

Doughty and Williams (1998) suggest that language learning cannot be defined as essentially either an implicit or an explicit process since learners utilize both implicit and explicit learning as they progress in their Interlanguage (IL) development. For example, even when the goal is to achieve automatic and fluent access to IL knowledge (*Implicit* column choice), the learning process can involve overt noticing (*Explicit* column choice). Therefore, the rigid constraints of assuming that all pedagogical choices must be made within one vertical column (*Implicit* or *Explicit*) are not effective and language teachers can make choices across columns in choosing FonF tasks.

Recent immersion and naturalistic acquisition studies (Harley, 1993; Harley & Swain, 1984; Sato, 1990; Schlyter, 1990; Schumann, 1987; Swain, 1984, 1991; von Stutterheim, 1991) have revealed that despite years of exposure to meaningful interaction and comprehensible input, certain features of learners' IL remain nontarget-like. In contrast, classroom-based experiments conducted in immersion classes which utilized FonF through enhanced input (Day & Shapson, 1991; Harley, 1998: Lyster, 1994) and Input/Interaction studies in general (see Harley, 1994; Williams, 1995, for summaries) indicate that pedagogic intervention imbedded in communicative activities can accelerate the rate of language acquisition and help learners attain greater proficiency. Gass (1997) also claims that enhanced input is necessary to prevent the cessation of language development, especially when "learners reach a point where differences between their own learner systems and the target language are imperceptible" [to the learner] (p. 151).

As I have shown above, SLA researchers share a consensus that increased "noticing" of formal aspects of the target language benefits the learner. It follows, then, that manipulating the input in order to guide learner attention to specific forms can be expected to facilitate learning. According to Sharwood Smith (1991, 1993), making certain forms in the input more salient to draw learner attention to them focuses learners on the formal properties of the language. Input enhancement, “the process by which language input becomes salient to the learner” (Sharwood Smith, 1991, p. 118), supplements naturalistic learning and may help L2 learners to focus on both meaning and form.

Clearly, there are many possible ways to manipulate and enhance input, and SLA researchers have empirically tested various types of input enhancement techniques in order to determine which more effectively promote the acquisition of different grammatical forms. These techniques can comprise either positive (signaling the importance of the enhanced form) or negative (signaling the unacceptability of the enhanced form) input enhancement and range in their degree of explicitness and elaboration: from the more explicit ones like grammar instruction (Fotos, 1994; Fotos & Ellis, 1991; Swain & Lapkin, 1995) and corrective feedback (Carrol & Swain, 1993; Lightbown & Spada, 1990; Tomasello & Herron, 1998, 1999) to the more implicit ones like input flood (Doughty & Williams, 1998; Trahey & White, 1993; Williams & Evans, 1998) and textual enhancement (Jourdenais et al., 1995; Leow, 1997; Overstreet, 1998) or combinations of different techniques (Alanen, 1995; Doughty, 1991; Doughty & Valera, 1998; Leeman et al., 1995; White, 1998).

An important objective of recent SLA research has been to establish effective means of focusing learner attention on grammatical features. While the beneficial effects of explicit instruction lie in changing learner expectations and, consequently, what is attended to in subsequent exposure to the input (Schmidt, 1993, 1995), implicit instruction provides focus on formal features of the TL without interrupting the processing of meaning at the moment when learners need that linguistic information. At the same time, as Sharwood Smith (1991) warns, artificially induced noticing of a particular form might not necessarily result in the target form being incorporated into the developing IL: “Although learners may notice the signals, the input may nevertheless be nonsalient to their learning mechanisms” (p. 121). In line with Sharwood Smith, Leeman (2003) asserts that researchers who hypothesize that perceptual salience[2] plays a role in language development “do not suggest that all salient forms are attended to by learners nor that learners attend only to salient forms, given that attention is assumed to depend on a wide range of factors including task conditions, learner readiness, and individual idiosyncrasies” (p. 42). In other words, certain forms may be noticed more than others, and some forms may be noticed perceptually but not linguistically. Nevertheless, there is some empirical evidence that learners are more likely to attend to perceptually salient forms (Barcoft & VanPatten, 1997; Rosa & O’Neill, 1998). In terms of development, saliency has been proposed as an explanation of morpheme acquisition order both in L1 and L2 acquisition (Brown, 1973; Goldschneider & DeKeyser, 2001). Accordingly, prior empirical attempts to increase perceptual saliency of different target features are of particular interest to the design of the proposed research. Given that the present study used text enhancement as its treatment and investigated it as the major independent variable, this section specifically focuses on a detailed review of the previous literature on text enhancement.

1.3 Previous Studies on Textual Enhancement

Suggested as a type of a relatively unobtrusive technique (Doughty & Williams, 1998), text enhancement has been used as an attention-catching device for L2 focus-on-form (FonF) instruction. The two main characteristics of this technique are: 1) learners are engaged in reading meaning-bearing written input and 2) certain (usually perceptually nonsalient) features of the input are rendered salient by means of typographical cues. It is also a proactive approach to FonF in that the form to be enhanced needs to be decided upon a priori based on various considerations such as learning difficulties and learner needs. The typographical manipulation may involve changing the font style, enlarging the character size, using bolding or italics, highlighting, or employing any combination of these cues. Text enhancement may be provided without telling the learner the purpose of the enhancement, or the learner may be asked (without excessive guidelines) to pay special attention to the enhanced forms. Despite the difference in the level of explicitness, text enhancement in both cases aims at integrating attention to form and meaning by engaging the learner in the reading process. Text enhancement offers many advantages over other FonF techniques in that it can be integrated into different types of instruction and combined with other input enhancement techniques (rule presentation, input flood, etc.).

For example, Leeman and her colleagues (1995) examined the effect of text enhancement accompanied by feedback regarding the use of the target structure. The subjects (N = 22) were advanced university level L2 Spanish learners who read passages with textually enhanced (underlined and highlighted) target verb forms (preterit and imperfect) while paying attention to verb forms and their meanings. The subjects then answered questions based on the passage, discussed the readings, participated in a debate, watched the debate on video, and finally evaluated each other’s performance. The control group subjects received the same content-based treatment in which attention to form and meaning were integrated without focusing on form. The subjects in the experimental group were instructed to pay particular attention to forms and received corrective oral feedback on the target form for the duration of the experiment while the subjects in the control group were not instructed to notice the forms and did not receive any corrective feedback. The results of the experiment revealed that the participants in the treatment group who read typographically enhanced text and received teacher feedback demonstrated significant gain for accuracy when using the target verb form in the debate in contrast to the participants in the purely communicative group. The researchers concluded that the positive effects of focus-on-form instruction seemed to be the result of increased learner attention to the target form. However, the study failed to clarify whether the effect was due to typographical enhancement, teacher feedback, instruction to attend to the expressions of temporal relationship, or a combination of these techniques used in the treatment group, so it is difficult to determine the effectiveness of text enhancement technique on its own.

White (1998) investigated the combined effects of text enhancement and input flood on the acquisition of English possessive determiners by L1 French-speaking sixth-graders (N = 86). Three different treatment conditions were employed: (1) text enhancement and input flood; (2) text enhancement, input flood, and extensive reading and listening; and (3) input flood only. The results of the study revealed that all three groups improved significantly in their use of the target form with no difference between them. In explaining these findings, White suggested that the three types of focus-on-form techniques used in the three different treatment conditions were all equally effective because of their implicitness (grammatical rules were not explicitly presented or drilled).

Doughty (1991) provided some indirect evidence for the facilitative role of text enhancement by investigating the effect of form-focused instruction on the acquisition of relative clauses by adult L2 English learners. The subjects (21 educated middle proficiency ESL learners) were divided into three groups: a meaning-oriented treatment group, a rule-oriented treatment group, and a control group. All three groups went through 10 hours of computer-delivered treatment. The meaning-oriented group received treatment with the enhanced (capitalized and highlighted) target form and had lexical or semantic rephrasing information and overall sentence-clarification information on the bottom half of the computer screen. The rule-oriented group received treatment with the enhanced target forms and had explicit grammar explanations about the usage of the form. The control group received treatment without linguistic support or additional information. All groups showed gains on the combined measures of relative clause learning, but the two treatment groups improved significantly more than the control group (with no significant difference between the two treatment groups). Since both treatment groups received considerable visual indications of the target forms, the researcher concluded that perceptual saliency might have played a key role in the success of the treatment. The results of this study demonstrated the importance of attracting learner attention to the target of instruction. However, the direct effect of text enhancement is not clear since it has not been isolated from the effects of other teaching techniques such as rule presentation and rephrasing. Consequently, much like Leeman et al. (1995), other pedagogical techniques might have contributed to these results.

Another study that examined the potentially facilitative effect of text enhancement on the acquisition of English relativization was Izumi (2002). A computer-assisted reconstruction/reading task was used to present the target input materials to 61 ESL adults of different L1 backgrounds of low intermediate, intermediate, and high intermediate L2 proficiency level. Four treatment groups and one control group were included in this study: (1) +O+IE group was exposed to enhanced input and required to produce output; (2) +O-IE group was exposed to unenhanced input and required to produce output; (3) -O+IE group was exposed to enhanced input and not required to produce output; (4) -O-IE group was exposed to unenhanced input and not required to produce output; (5) control group was not exposed to enhanced input, and no output was required. The results of the study demonstrated that those exposed to enhanced input noticed more of the target structure than those exposed to unenhanced input. However, even though the participants engaged in input-output activities significantly outperformed those in input comprehension activities, there was no difference between enhanced and unenhanced group scores. In other words, one of the major findings of the study was that text enhancement failed to demonstrate measurable effect on learning, despite the documented positive impact of the enhancement on the noticing of the target items in the input.

Robinson’s (1997) tightly controlled laboratory study investigated the effects of instructed and enhanced FonF conditions and implicit and incidental non-FonF conditions on the L1 Japanese students learning a syllabic constraint on verbs that allow the dative alteration in English. Sixty college-age students read 55 stimulus sentences on the computer screen under four conditions: (1) an implicit condition, in which they were instructed to remember the position of words in sentences; (2) an incidental condition, in which they were instructed to attend to meaning; (3) an enhanced condition, in which verb stems and indirect and *to*-objects were enhanced by boxing while the participants were instructed to remember the position of words in sentences; and (4) an instructed condition, in which the participants received a brief metalinguistic explanation of the underlying rules before their exposure to the stimulus sentences. The results of the grammaticality judgment test demonstrated that the enhanced group learners were more accurate than the implicit group learners on new ungrammatical sentences. These results suggest that textual enhancement, coupled with attention to meaning, led to more generalizable learning than the memorization encouraged in the implicit condition. At the same time, the effect of text enhancement was limited and not as significant as in the instructed condition since the instructed learners outperformed all others on both new grammatical and new ungrammatical sentences. The results of this study should be interpreted with caution since the task conditions between the enhanced and implicit groups were different and the positive results of the enhanced group participants may not necessarily be attributed to the enhancement since no significant difference was found between the enhanced and incidental condition.

In another tightly controlled laboratory study (Williams, 1999), single decontextualized sentences were presented to the participants (N = 58) visually and auditorily in a computer-controlled format (L2 Italian). Three separate experiments were conducted to address related but different issues about the kind of learning that might take place under different conditions. It was only in the second experiment that visual enhancement (color coded grammatical morphemes) was introduced as an independent variable. The results of the experiment demonstrated that text enhancement interacted with the complexity of the linguistic domain and led to greater acquisition of some forms supporting the claim that this technique can positively affect learning. However, other modifications made in the second experiment (ones not taken into consideration when interpreting the results) could have effected the outcome (the participants were pre-trained on the vocabulary to ease the processing load of content words and the stems of all content words were presented to the participants to assist them in the recall task).

Shook (1994) examined the effect of text enhancement on the acquisition of Spanish present perfect and relative pronouns *que/quien* by 125 university students. The study involved three conditions: enhancement, enhancement plus instruction to pay attention to the enhanced target, and no enhancement. Since the two enhanced groups outperformed the unenhanced control group (with no difference between the two enhanced groups) on the written production and written recognition tasks of the targeted forms, the researcher concluded that text enhancement was beneficial for instruction. In other words, explicitly asking the participants to attend to the enhanced target forms did not affect the results. However, the participants demonstrated better acquisition of the present perfect than of the relative pronouns, results that provided evidence that the choice of grammatical category had affected the results of the experiment. Shook attributes the greater overall gains in the results of the group where present perfect was enhanced over the group where relative pronouns were enhanced to the difference in the meaningfulness of the two enhanced forms. According to Shook, the aspectual distinction of the present perfect is more meaningful than the use of the relative pronouns *que* and *quien*. As a result, the present perfect group outperformed the relative pronoun group.

Jourdenais et al. (1995) examined the effect of text enhancement on the acquisition of preterit and imperfect verb forms in L2 Spanish and found further evidence for the claim that enhanced input promotes more “noticing” and subsequent production of the targeted forms. College level L1 English participants (N = 14) were randomly assigned to an enhanced or a comparison group. Data were collected through think-aloud protocols and a writing task in which the participants had to produce a picture-based narration. The results of this pilot study revealed that textually enhanced group participants produced more target forms on the written production task which led the researchers to conclude that textual enhancement had a positive effect on the acquisition of the targeted features. However, the results of Jourdenais’s (1998) larger-scale study (N = 116) on the same verbal forms did not yield any effect for the treatment, suggesting that text enhancement was not effective in promoting the acquisition of preterit/imperfect aspectual distinction in Spanish for these learners. Jourdenais suggests that the complexity of the forms, the implicitness of the enhancement method, task demands, and the participants’ stages of aspectual development might have accounted for the fact that between-group comparisons failed to demonstrate significant differences caused by enhancement.

Leow’s (1997) study examined the effect of text enhancement on the acquisition of impersonal imperative forms of Spanish verbs. The participants (84 college students) were divided into four treatment groups: (1) long text with enhancement; (2) long text without enhancement; (3) short text with enhancement; and (4) short text without enhancement. The short-answer comprehension and multiple-choice recognition post-test results demonstrated the significant role of text length on comprehension. However, there was no significant effect for text enhancement. In other words, exposure to materials containing typographical cues of the target linguistic feature was not effective in focusing learner attention on the target forms in order to comprehend the reading passage.

Alanen (1995) explored the effects of both text enhancement and rule presentation on the acquisition of prepositional morphology and consonant alteration in semi-artificial Finnish by 36 L1 English speakers. The reason for choosing these two types of forms was to examine the potentially differential effects of the treatment on forms with different semantic content: locative suffixes whose semantic content roughly corresponds to the function of prepositions in English and consonant alteration which is semantically empty. The participants were divided into one of four different treatment conditions: (1) typographical enhancement; (2) rule presentation; (3) typographical enhancement and rule presentation; (4) no exposure to enhancement or rule presentation. All learners were exposed to two instructional sessions in which they had to read and comprehend a passage, answer questions based on the passage, and complete a translation exercise. The enhanced group demonstrated some differences in performance as compared to the control group, differences which revealed a facilitative effect of text enhancement on learner recall and the use of targets, especially those of prepositional morphology. However, overall, groups (2) and (3) outperformed groups (1) and (4), suggesting that explicit information about the rules may be more beneficial than the use of text enhancement. In her discussion, Alanen explains that these results may be in part due to her choice of using italics (which are not very salient) as the typographical cue.

Wong's (2001) study investigated the impact of text enhancement on L2 French university students' acquisition of the past participle agreement in relative clauses and their reading comprehension of texts with the embedded target forms. Four groups of participants (N = 81) were randomly assigned to one of four conditions: (1) text enhancement and simplified input; (2) simplified input without text enhancement; (3) text enhancement without simplified input; (4) unsimplified input without text enhancement. The results of the experiment demonstrated that text enhancement helped participants recall the enhanced information. However, it did not help these learners acquire the target form.

Learner achievement on a grammaticality judgment task, comprehension quiz, and production task showed no effect in favor of text enhancement in Overstreet’s (1998) study, which examined the effects of text enhancement and content familiarity on comprehension and acquisition of Spanish preterit and imperfect by 50 L1 English university students. Participants in this study read a text under four conditions: (1) familiar content and text enhancement; (2) familiar content without text enhancement; (3) unfamiliar content and text enhancement; (4) unfamiliar content without text enhancement. The results of the study demonstrated no positive effects for either text enhancement or text familiarity. On the contrary, the study noted a negative effect of text enhancement on comprehension. The researcher concluded that typographical enhancement interfered with text comprehension; that is, the task required too much attention to allow beginning learners of Spanish to attend to both meaning and form. The researcher explains that this negative effect is consistent with VanPatten’s (1990) findings that learners experience difficulty while simultaneously focusing their attention on form and meaning.

For ease of interpretation, Table 1.2 summarizes the thirteen text enhancement studies reviewed in this section in terms of the subjects, target forms, and effectiveness of the instruction.

Table1.2 Summary of Previous Text Enhancement Studies in SLA

Study	Subjects			Target Form	Effect
	N	L1	L2		
Alanen (1995)	36 university students	English	semi-artificial Finnish	locative suffixes & consonant alteration	limited
Doughty (1991)	21 intermediate level adults	different	English	relative clauses	facilitative
Izumi (2002)	61 intermediate level adults	different	English	relative clauses	limited
Jourdenais (1998)	116 adults university students	English	Spanish	preterit & imperfect	insignificant
Jourdenais et al. (1995)	14 adults university students	English	Spanish	preterit & imperfect	facilitative
Leeman et al. (1995)	22 advanced learners	English	Spanish	preterit & imperfect	facilitative
Leow (1997)	84 university students	English	Spanish	impersonal imperatives	insignificant
Overstreet (1998)	50 university students	English	Spanish	preterit & imperfect	negative
Robinson (1997)	60 college-age students	Japanese	English	dative alteration	limited
Shook (1994)	125 university students	English	Spanish	present perfect & relative pronouns	facilitative
White (1998)	86 sixth grade students	French	English	possessive determiners	limited
Williams (1999)	58 university students	English	Italian	verb inflections & article-noun agreement	facilitative
Wong (2001)	81 university students	English	French	past participle agreement in relative clauses	limited

As indicated in Table 1.2, previous SLA studies that have investigated the effects of text enhancement have produced mixed results. These mixed results might be explained by inconsistencies in the research designs of some studies and by other different factors. For example, while Alanen (1995), Jourdenais (1998), Jourdenais et al. *(*1995), Leow (1997), Overstreet (1998), and Shook (1994) have successfully isolated text enhancement as an independent variable, Doughty (1991), Leeman et al. (1995), Williams (1999), and White (1998) have not. Consequently, it is difficult to determine the contribution of this technique to the acquisition of targeted grammatical features. The level of text difficulty can also be posited as a cause of inconclusive findings. Overstreet (1998), for example, suggests that text simplification would reduce the amount of attentional resources needed for text comprehension and would allow learners to better attend to form. In addition, the different types of text enhancement employed can differently affect the degree of perceptual saliency of the enhanced forms. The effect of text enhancement may be weakened when a combination of several types of text enhancement (for example, underlining, changing the font, and highlighting) are employed in the same treatment. Thus, too many differently enhanced forms could have been too cognitively demanding for the beginning learners in Overstreet’s study and could thus explain the negative results of his experiment.

1.4 Summary of Chapter 1

In summary, it is clear that SLA researchers confirm that drawing attention to the target form facilitates the acquisition of this form. Several previous studies on the direct effect of textual enhancement in SLA (Doughty, 1991; Jourdenais et al., 1995; Leeman et al., 1995; Shook, 1994; Williams, 1999) have suggested that this technique can be beneficial to instruction since it integrates attention to form with attention to meaning. However, some studies have demonstrated limited or no significant effect at all (Alanen, 1995; Izumi, 2002; Jourdenais, 1995; Leow, 1997; Robinson, 1997; White, 1998; Wong, 2001), while still others demonstrated a negative effect on the subjects' comprehension of texts (Overstreet, 1998). The fact that text enhancement studies have produced quite mixed results suggests that this pedagogical technique cannot be expected to impact all types of forms and all learners the same way.

Most of the above mentioned studies have explored the effect of text enhancement in L2 Spanish (Jourdenais, 1995; Jourdenais et al., 1995; Leeman et al., 1995; Leow, 1997; Overstreet, 1998; Shook, 1994) and only four known studies have investigated the variables and linguistic forms in L2 English (Doughty, 1991; Izumi, 2002; Robinson, 1997; White, 1998). Even though text enhancement studies have focused on the acquisition of linguistic features that contain different degrees of semantic value, the research literature provides no information to address how the same text enhancement technique might work for the acquisition of forms with different communicative value within the same research design. Consequently, the present study aims to isolate the effects of various tasks performed by the participants by controlling not only for text enhancement but also for each of the dependant variables.

Moreover, absent in this line of research is an investigation of the effects of input enhancement on the IL development of adult[3] L2 learners who have been exposed to the target language over a long period of time and have failed to acquire certain grammatical forms via naturalistic aural input. It is specifically to this kind of inquiry that the current study seeks to contribute.

Notes for Chapter 1

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1 FonFs techniques include explicit instruction on how the targeted linguistic form works; they are not the focus of this study.

2 Perceptual salience “is the property of a structure that is perceptually distinct from its environment” (Ravid, 1995) or, as defined by Goldschneider & DeKeyser (2001), it refers to “how easy it is to hear or perceive a given structure” (p. 47). According to Goldschneider & DeKeyser, perceptual salience of a grammatical feature depends on its phonetic substance (the number of phones), syllabicity (the presence/absence of a vowel in the surface form), and its total relative sonority. Goldschneider & DeKeyser also suggest stressed/unstressed and serial position as possible subfactors that effect perceptual salience.

3 Even though *adult* is defined as being over age 12 (Lenneberg, 1967; Selinker, 1972), this research aims at investigating the Interlanguage of adults who are over the age of 25.

CHAPTER 2

MODELS OF SECOND LANGUAGE ACQUISITION AND INPUT PROCESSING

2.0 Introduction

In order to effectively examine how input enhancement affects SLA, it is important to have a general learning model that demonstrates how learners derive their L2 grammatical knowledge. This chapter provides such a model. First, it introduces an integrated model of SLA to impart a general idea of what SLA processes entail. Next, it describes second language input processing in order to explain how learners make on-line form-meaning connections. Then, it discusses the generative approach to language acquisition adopted throughout this work and the role of Universal Grammar (UG) in SLA. The chapter concludes with the research questions and hypotheses for this study.

2.1 The Role of Linguistic Input in Second Language Acquisition

In the field of SLA, the term *input* has been used in reference to the linguistic data available to learners, namely the target language to which the learners are exposed (Ellis, 1994; Sharwood Smith, 1993). Given that learners need to encounter linguistic input in order to acquire a language, the construct of input is one of the most important concepts in the field of SLA. In fact, Gass (1997) observes that “no individual can learn a second language without input of some sort” (p. 1). This truth may seem too obvious to point out, but Gass notes, “In fact, no model of second language acquisition does not avail itself of input in trying to explain how learners create second language grammars” (p. 1).

In other words, linguists absolutely can not afford not to study and investigate input because it is so vital to learning outcomes.

Thus, input has been studied from various perspectives (e.g., interactionist, innatist, cognitive) and with different approaches, each of which have led to different conclusions regarding the role of input in SLA. The study of its roles includes investigation of the ways it interacts with the mental capacities of language learners, the conceptualization of how individuals process it, and the amount and type of input necessary for language acquisition to take place.

In Krashen's (1985) Comprehensible Input Hypothesis, input assumes a central role in language acquisition. Krashen points out that comprehensible input is the key to language acquisition, asserting that speech "cannot be taught directly but emerges on its own as a result of building competence via comprehensible input," and that "if input is understood, and there is enough of it, the necessary grammar is automatically provided" (p. 2). However, other researchers (Gass, 1997; Gass & Madden, 1985; Long, 1996; White, 1987) have shown that comprehensible input alone cannot ensure language acquisition since negative evidence[1] is also necessary for learners to distinguish grammatical sentences from ungrammatical ones (for Long's taxonomy of evidence types, see Gass, 1997, p.37).

Negative evidence is another crucial concept in both L1 and L2 acquisition because it forms the basis of the innateness argument and because it is one of the cornerstones of the generative approach. Chomsky's poverty-of-stimulus argument (1980, 2002), which maintains that primary linguistic data (PLD) is too impoverished for the child to acquire the complexities and idiosyncrasies of his/her native tongue, is a key concept of generative linguistics (Thomas, 2002). It is the learners' pre-conceived knowledge of the structure of human language that explains the creative aspect of language use and the tremendous speed with which young children acquire their mother tongue.

Since negative evidence is not easily available to children acquiring their L1, Universal Grammar, an innate biologically endowed language faculty, is postulated to supply the deficiency in the PLD. In other words, UG places limitations on the grammars which underlie language use by constraining their inventory of possible phonological, syntactic, and semantic categories as well as the way they operate. Linguistic input, on the other hand, triggers the system and allows for variation (Chomsky, 1959, 1975, 1986, 2001). Consequently, within the Generative Approach to language acquisition, input is thought to play an important, but not a central, role in that it interacts with an innate structure and enables learners to construct a grammar out of the language supplied by the linguistic data to which they are exposed.

As demonstrated above, despite the difference in the status of linguistic input within different approaches to SLA, clearly the theoretical assumption that input plays an essential role in language acquisition is widely held (Chaudron, 1985; Cook, 1997; Ellis, 1993; Gass & Madden, 1985; Larsen-Freeman & Long, 1991; Schwartz, 1993; VanPatten, 1990; White, 1989). Consequently, an important task of linguistic theory is to explain how language learners process this input.

2.2. Gass's Integrated Model of Second Language Acquisition

Among existing models of SLA (Chaudron, 1985; Gass & Selinker, 1994; Krashen, 1980, 1982, 1985; Sharwood Smith, 1986; VanPatten, 1995, 1996, 2004; White, 1989, to name a few), Gass's Integrated Model of SLA (Gass, 1997; Gass & Selinker, 1994) attempts to characterize how second languages are learned and demonstrates the interrelated processes of language acquisition. This model provides a detailed description of each stage, taking into account the complex and dynamic nature of SLA. Gass's model acknowledges the centrality of UG in understanding SLA processes and, at the same time, it demonstrates that UG accounts for only a portion of L2 acquisition.

The model proposed by Gass (1997; Gass & Selinker, 1994) puts forward five stages which account for the conversion of input into output: (1) apperceived input, (2) comprehended input, (3) intake, (4) integration, and (5) output. The model is schematically represented in Figure 2.1.

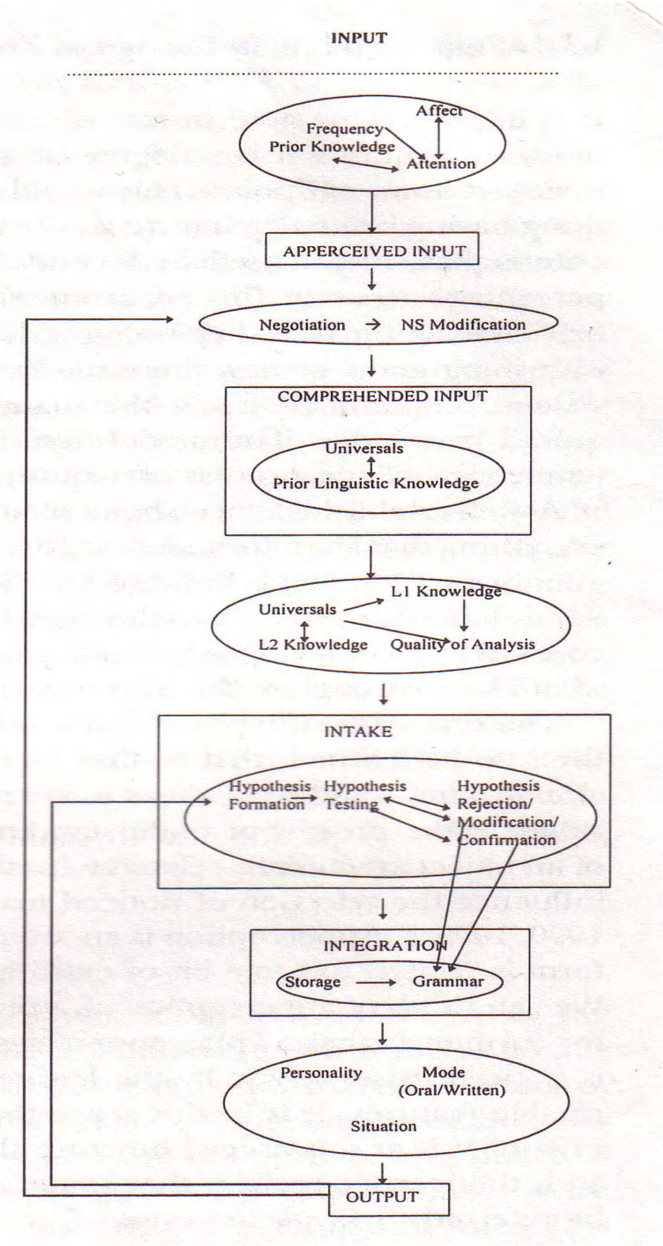

Figure 2.1 A Model of Second Language Acquisition (Gass, 1997, p. 3)

The initial stage of input utilization, apperception, is “a priming device that prepares the input for further analysis” (Gass, 1997, p. 4). At this stage of second language acquisition, L2 learners notice a gap in their IL that needs to be filled. Different factors influence what they notice in the input: the saliency and the frequency of the linguistic features, the learners' prior knowledge (language universals, knowledge of the native language, knowledge of other languages, existing knowledge of the L2, world knowledge, etc.), and the learners' affective aspects (social distance, status, motivation, and attitude). In other words, L2 learners notice only some linguistic data contained in the input and only those aspects of the input that are noticed can be utilized for learning. This "noticing" seems to be closer to Tomlin and Villa's (1994) detection rather than Schmidt's (1990, 1995, 2001) "noticing" (See Chapter 1 for comparison), and it is related to "the potentiality" of input comprehension.

The second stage of acquisition is comprehended input, that is, the part of the apperceived input that is understood. Comprehension ranges from analysis at the level of meaning to detailed structural analysis of syntactic and/or phonological patterns represented in the input; and, according to Gass (1997), it is an analysis at the level of syntax, not at the level of semantics, that is important for intake. Consequently, the learner input analysis level may be one of the crucial factors that determine whether or not comprehended input can feed into the intake component, the third stage of acquisition.

"Intake" is the process of matching the comprehended input against the existing internalized grammatical rules and, as Gass (1997) asserts, the most likely candidates for intake are features that are part of universal knowledge. It is in this component where psycholinguistic processes take place, i.e. where "generalizations and overgeneralizations are likely to occur; it is where memory traces are formed; and finally, it is the component from which fossilization stems" (Gass, p. 406). In other words, the correct input may be neither apperceived nor comprehended, and thus it may not be further processed.

Gass and Selinker (1994) outlined four possible outcomes of intake that are a form of integration, the fourth stage of the model. The first possibility is hypothesis rejection or confirmation; that is, a learner might have created a hypothesis about a certain grammatical form and when this form is encountered in the input, he either confirms the existing hypothesis (integration) or modifies it and awaits further confirmation in the input (no integration). The second possibility arises when the information contained in the input is already part of the learner's prior knowledge. In this case, the additional input reconfirms the hypothesis. The third possibility takes place when some level of understanding has occurred but, due to insufficient evidence, the learner cannot determine the validity of his hypothesis and puts the information into storage awaiting further confirmation from the input, or he rejects the hypothesis. In the fourth case, learners make no use of the input and the intake exits the system without being integrated. In other words, not all intake can be integrated into the learner's IL, and the information which is stored may or may not be used later on.

The final stage of the acquisition process is that of output, which not only feeds back into the learner's internal system where it may lead to the consolidation of linguistic knowledge, but which may also be involved in interaction with interlocutors as a means for learners to receive input. Once learners have created a particular hypothesis about a certain form and use that form productively, they may receive feedback and modify the original hypothesis. Thus, following Swain's (1985) output hypothesis, Gass (1997) perceives output not only as a product of acquisition, but also as an active component in the overall acquisition process.

In sum, according to Gass (1997), SLA involves distinguishable yet overlapping psycholinguistic processes. First, the learners perceive selected aspects of the input determined to a large extent by selective attention. Then, they extract information from the input, with comprehension and intake being different processes, of which only the latter is used for further processing. The intake may subsequently be integrated into the developing IL through the processes of hypothesis formation, testing, modification, rejection, and confirmation. Finally, learners selectively materialize their developing system in their output, a linking stage in the interrelated acquisition processes.

2.3 VanPatten’s Model of Input Processing in Second Language Acquisition

Another model of SLA which is of particular interest to the current research is that of VanPatten (1995, 1996, 2004). This model is concerned with input processing and attempts to address the manner in which language learners allocate attentional resources to linguistic input and connect grammatical forms with their meaning. VanPatten assumes, as do many other researchers (Gass, 1997; Schmidt, 1990, 1995; Tomlin & Villa, 1994) that attention is a prerequisite for acquisition. He argues, however, that certain principles guide the ways in which L2 learners process grammatical forms in order to comprehend the input. These processing principles, in turn, shape the intake data available for accommodation by the learner’s IL. VanPatten’s model (2004) consists of three distinct sets of processes, as shown in Figure 2.2.

I II III

input → intake → developing system → output

I = input processing
II = accommodation, restructuring
III = access, production procedures

Figure 2.2 A Sketch of Basic Processes in Acquisition (VanPatten, 2004, p. 26)

According to this model, input is converted into intake in the course of Process I, input processing. However, not all of the input to which the learner is exposed to impacts acquisition. VanPatten suggests that only those features that the learner has attended to can be comprehended and further processed. Thus, the learner must first attend to and comprehend the input before it can be further assimilated into his developing linguistic system.

Process II (restructuring) incorporates intake into the learner's developing linguistic system and induces its restructuring. As in Process I (input processing), not all intake is incorporated during Process II. At the same time, if a form is processed, it becomes available for further processing and may be accommodated into the developing linguistic system. Process III (access monitoring), the last stage of VanPatten's model, is responsible for production.

According to VanPatten (2004), input processing takes place in working memory during on-line comprehension. Working memory, a concept that evolved from the construct of short-term memory, refers to a "work space" in which an individual can consciously manipulate information and which is in a currently heightened state of activation (Baddeley, 1995, 1999; Richardson, 1996; Robinson, 2003). Working memory performs the dual task of processing and storing information simultaneously and plays a crucial role in SLA since it directly affects how much L2 is stored and how well it is processed on-line. Working memory is capacity limited, and the cognitive resources required to process and store incoming information differ from individual to individual. Critical to VanPatten's model of input processing is the assumption that humans are not capable of attending to all the information in the input since they possess limited storage and processing capabilities (Baddely, 1995, 1999; Pienemann, 2003). Based on this assumption, VanPatten (redefined from VanPatten, 1996) proposes a set of principles that describe second language input processing. These principles fall under two main categories: the general matter of the primacy of meaning (Principle 1) and the account for basic sentence interpretation (Principle 2) in input processing, as demonstrated in Table 2.1.

Table 2.1 VanPatten’s Principles of Input Processing

Principle 1 ***The Primacy of Meaning Principle***
Learners process input for meaning before they process input for form.

Principle 1a *The Primacy of Content Word Principle*
Learners process content words in the input before anything else.

Principle 1b *The Lexical Preference Principle*
Learners tend to rely on lexical items as opposed to grammatical forms to obtain meaning when both encode the same semantic information.

Principle 1c *The Preference for Nonredundancy Principle*
Learners are more likely to process nonredundant meaningful grammatical form before they process redundant meaningful forms.

Principle 1d *The Meaning-Before-Nonmeaning Principle*
Learners are more likely to process meaningful grammatical forms before nonmeaningful forms irrespective of redundancy.

Principle 1e *The Availability of Resources Principle*
For learners to process either redundant meaningful grammatical forms or nonmeaningful forms, the processing of overall sentential meaning must not drain available processing resources.

Principle 1f *The Sentence Location Principle*
Learners tend to process items in sentence initial position before those in final position and those in medial position.

Principle 2 ***The First Noun Principle***
Learners tend to process the first noun or pronoun they encounter in a sentence as the subject/agent.

Principle 2a *The Lexical Semantics Principle*
Learners may rely on lexical semantics, where possible, instead of word order, to interpret sentences.

Principle 2b *The Event Probabilities Principle*
Learners may rely on event probabilities, where possible, instead of word order, to interpret sentences.

Principle 2c *The Contextual Constraint Principle*
Learners may rely less on the first noun principle if the preceding context constrains the possible interpretation of a clause or sentence.

VanPatten warns that these principles do not operate in isolation. On the contrary, they may act together, and one may take precedence over the other, causing a delay in the acquisition process. Alternatively, learners may process something in the input that they had missed before. Overall, VanPatten's model of input processing emphasizes how the communicative nature of input interacts with a learner's processing capacities and attributes the slow pace of the development of grammatical morphology to the low level of communicative[2] value of grammatical morphemes.

Since it is intake, not input, that makes further linguistic processing possible, VanPatten emphasizes the significance of understanding exactly how learners derive intake from input in order to determine the way to facilitate this process. A detail of Process I, presented in Figure 2.3, demonstrates the derivation of intake from input.

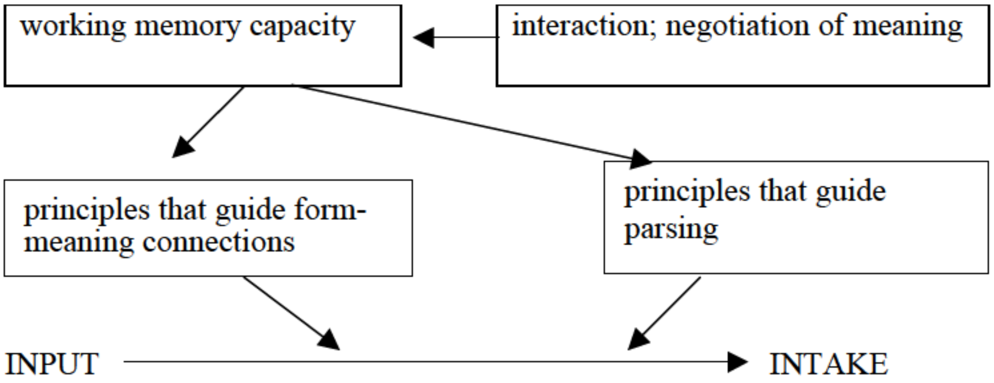
working memory capacity
interaction; negotiation of meaning
principles that guide form-meaning connections
principles that guide parsing
INPUT
INTAKE

Figure 2.3 A Detail of Process I from Figure 2.2 (VanPatten, 2004, p. 26)

To derive intake from input, L2 learners, operating with limited processing capabilities, first search for content words in the input (formulated in Principles 1a & 1b). If resources are not exhausted at this point, they may try to make form-meaning mapping by attending to meaningful grammatical forms (formulated in Principles 1c & 1d). However, if processing resources are exhausted from dealing with content words, there is insufficient capacity left for detecting grammatical features and for processing them for purposes of acquisition. Consequently, grammatical forms may be ignored. VanPatten suggests that decreasing the demands placed on processing resources may enable learners to derive meaning from the features that they might have otherwise ignored. For example, deliberate attention to specific aspects of a form can enhance inflectional processing.

At the same time, VanPatten (1990) demonstrates that purely metalinguistic monitoring for form lowers the comprehension level. He proposes that the tendency of linguistic elements to be acquired earlier or later is related to their communicative value, which is positively affected by inherent semantic value and negatively affected by redundancy[3]. Figure 2.4 illustrates the interaction between semantic value and redundancy. The items in C are high in communicative value; the items in A are low in communicative value; the items in B and D represent those of low or no communicative value, respectively.

	+inherent semantic value	-inherent semantic value
+redundancy	A -subjunctive (e.g., Romance Langs) -third person *–s* (in English)	B -agreement markers on adjectives (e.g., Romance Langs)
-redundancy	C -case markers (if word order is free, e.g., Hungarian, Spanish) -English *–ing*	D -Conjugations in verbs (e.g., Romance Langs.) -(some) complementizers (e.g., that)

Figure 2.4 Communicative Value as a Function of Inherent Semantic Value and Redundancy (VanPatten, 2000, p. 46)

According to VanPatten (2000, 2004), if a grammatical form has a [-inherent semantic value] feature, it has no communicative value regardless of the presence or absence of the redundancy feature. At the same time, if a grammatical form has [+inherent semantic value] and [-redundancy] characteristics, its communicative value is higher than if it has [+inherent semantic value] and [+redundancy]. Thus, for example, English progressive *-ing* will be processed before 3PS, given that *–ing* with [-redundant] and [+inherent semantic value] features has higher communicative value than 3PS with [+redundant] and [+inherent semantic value] features, as demonstrated in Figure 2.4.

To summarize, VanPatten’s model provides information to explain how L2 learners allocate attentional resources during input processing and what features of input they are most likely to pay attention to. According to this model, learner attention tends to be drawn to more meaningful aspects in the input, those that are immediately relevant to the content of the message. In other words, content words are processed before morphological markers since learners are intrinsically driven to look for meaning in the input and to thus rely on semantic and pragmatic knowledge to compensate for the lack of sophisticated parsing mechanisms.

Input processing theory views positive evidence as the engine behind language acquisition. More specifically, according to VanPatten (2003), structured positive evidence (the type of manipulated input used in processing instruction) assists learners in the acquisition of L2 grammatical features more efficiently. However, the debate is that positive evidence alone may not be sufficient to guarantee that learners acquire a language. Even though learners need positive evidence to construct their grammar, positive evidence interacts with other linguistic phenomena, which affect their acquisitional processes.

2.4 The Generative Approach to Second Language Acquisition

The Generative Approach to Second Language Acquisition merits close attention because it forms the backbone for the present study, especially due to its claims that UG guides language acquisition.

2.4.1 Universal Grammar and Second Language Acquisition

A fundamental claim of the Generative Approach is that language is a biological characteristic of humans regardless of the specific language they speak. As mentioned earlier in this chapter, the acquisition of grammar, an internalized linguistic system, is postulated to be guided by an innate language faculty, UG, which allows L1 learners to process and construct the target grammar. UG contains a set of properties present in all languages that comprise unrestricted or absolute universals that, in turn, refer to the obligatory properties that define all languages. For example, all languages are organized in such a way that they crucially depend on the structural relationships between elements in a sentence (Cook & Newson, 1996), all languages permit and have CV syllables (Spencer, 1996), to name a few. Moreover, UG defines the extent to which languages can vary: the properties of languages that are common and frequent (unmarked) and the properties that are less frequent (marked). UG minimally provides children with the unmarked properties of language, as part of their genetic endowment.

Within the generative grammar approach to SLA, however, the role of UG is still contested (Epstein, Flynn, & Martohardjono, 1996) even though research foci have shifted from the issue of UG availability to L2 learners to that of the grammatical properties of IL grammars (White, 2003). The main two issues that distinguish the different perspectives are the extent to which UG constrains IL representation and the extent of the presumed involvement of L1 grammar (White, 2003). In regards to the former issue, L2 learner access to UG has been studied extensively from the early 1990s with different views ranging between completely impaired (Clahsen, 1988; Meisel, 1991, 1997) to unimpaired full access to UG (Eubank, 1994; Schwartz & Sprouse, 1996; Vainikka & Young-Scholten, 1996). However, as stated by Dekydtspotter, Sprouse, & Anderson (1997), it makes no sense to distinguish between different kinds of access to UG since within the current generative approach to language acquisition, the Minimalist Program (MP), computational principles are universally the same. According to MP, which will be discussed in more detail later in this chapter, language learning is largely lexicon learning, and it is the information contained in the lexicon that signals grammatical relationships. In other words, the locus of cross-linguistic variation lies in the language particular morphology (Gass & Selinker, 2004; White, 2003).

On the subject of the extent of the presumed involvement of L1 grammar, UG and L1 are considered "complementary sources of knowledge that guide IL development" (Montrul, 2000, p. 232). Like Montrul, White (2000) sees learners' L1 as their L2 initial state, and assumes that the properties of UG not represented in the L1 exist to constrain IL representations. Therefore, where properties of the target language input suggest that the L1 grammar is inadequate, learners turn to UG options and restructuring takes place. Nonetheless, depending on the L1 and L2 at issue, circumstances might occur where positive L2 input will not motivate restructuring and where properties of the L1 grammar will prevent some learners from noticing the relevant properties of the L2, a failure to notice that could actually lead to fossilization. White (2000) sums up the situation.

> In effect, the grammar that the learner has hypothesized acts as a filter, preventing certain aspects of the L2 input from being noticed; hence, reanalysis does not take place…It is not expected that learners will necessarily converge on the L2 grammar, since properties of the L1 grammar may prevent the learner from noticing relevant properties of the L2, in effect leading to fossilization at a point short of native-like competence (p. 137).

Thus, a failure to notice relevant L2 properties could result in fossilization. Researchers have relatively little idea of what makes particular L1 linguistic forms more vulnerable or impermeable in the L2 acquisition process, what triggers restructuring at different stages of IL development, or what L2 endstate[4] grammars look like. Some suggest that mastery of L2 functional categories and associated functional features[5] can be achieved by some learners (Eubank, 1994; Schwartz & Sprouse, 1996; Slabakova, 2000; Vainikka & Young-Scholten, 1996), while others predict that L2 endstate grammars will necessarily differ from those of native speakers (Beck, 1998; Bley-Vroman, 1990). Nevertheless, substantial empirical evidence confirms that universal grammatical principles constrain IL systems (Montrul, 2000; Schwartz, 1993, 2003;

Thomas, 1993; White, 2000) and that such systems resemble the target languages in most respects even if they are not identical or perfectly complete (Birdsong, 1992; Coppieters, 1987; Herschensohn, 2000). Consequently, due to the grammatical nature of ILs, which are "not random concatenations of words" (Herschensohn, p. 52) but rather possible human languages and therefore constrained by UG, many SLA researchers have formulated and tested their hypotheses by linking UG and SLA.

Since UG aims to explain the universal traits that characterize all human languages and since learner goals in L2 acquisition are akin to the goals of children acquiring their L1, that is, to comprehend and produce the target language on the basis of deficient input (Schwartz & Sprouse, 2000; White, 2000), then the present thesis rightly must adopt the most current framework of the generative paradigm, the Minimalist Program (Chomsky, 1993, 1995, 1998).

2.4.2 Brief Overview of the Minimalist Program

The Minimalist Program (MP) attempts to describe grammars by minimal means without overbearing theoretical rules and procedures. MP looks at the syntax-semantics interface in a new way in that minimalist mechanisms account for the fact that the meaning of a sentence is derived from the distinctive features of lexical items and the way these items are linked through functional categories. The fundamental idea of MP involves an invariant Computational System of Human Language (C_{HL}) and the roles of morphological features or features of functional categories, which control parametric[6] differences between languages. Thus, within the MP approach, UG comprises a C_{HL} and a lexicon. The lexicon consists of a set of lexical items, each of which is a collection of semantic, phonological, and morphological features. Semantic features are assumed to be rather invariant across languages, while phonological and morphological features vary from language to language. Thus, according to MP, except for phonological contrasts, it may be possible to reduce all grammatical differences to the properties of functional categories. With respect to language acquisition, MP states that since the C_{HL} is the same in all languages, learning a given language involves acquiring a correct set of functional category features as well as developing a sense of the general properties of the language lexicon by exposure to the primary linguistic data. In other words, learning the morphological features of lexical items is the central clue to language acquisition, both first and second (Dekydtspotter et al., 1997; Herschensohn, 1997, 2000, 2001).

The essence of MP as compared to the earlier versions of the generative approach (Government & Binding and Principles & Parameters) lies in the elimination of D-structure and S-structure as levels of representation, so that only two interface levels are left, namely, Logical Form (LF) and Phonetic Form (PF). These can be accessed by corresponding grammar-external performance systems: LF by systems of thought (conceptual-intentional) and PF by sensorimotor (articulatory-perceptual) systems. Each linguistic expression obtained from a computational process exists as a pair of the interface levels (PF & LF). LF and PF consist of items drawn from the lexicon, and generative theory relates these components through a derivation[7] (Chomsky, 1995). LF is a step in the derivation when the structure given at Spell-out (the point at which the derivations of LF and PF diverge) receives semantic representation. PF is a level where the same structure is assigned a phonetic representation. C_{HL} forms syntactic objects from lexical items by means of simultaneous interaction of the following basic syntactic operations: *Select, Merge, Agree, Move/Attract*. Figure 2.3 illustrates the structure of the grammar.

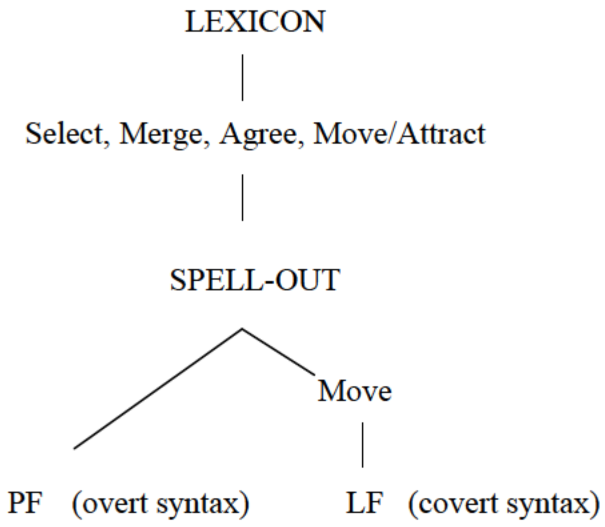

Figure 2.5 The Structure of Grammar within MP

Under the Minimalist assumptions, derivation begins by forming a numeration, that is, a set of lexical items with their indexes. This numeration is defined as a set of pairs (*LI, i*), wherein *LI* is a lexical item and *i* is the index that tells how many times LI will be selected from the numeration. Given the numeration, C_{HL} forms syntactic objects from lexical items, then constructs the LF interface representation. Each syntactic object (SO) roughly corresponds to a traditional phrase structure. The set of syntactic objects formed at a particular step in derivation is $\sum = \{SO_1, SO_2, SO_3,...SO_N\}$.

Operation *Select* selects a lexical item (LI) from the numeration, reduces its index by one, and adds it to the set of syntactic objects $\sum$. Operation *Merge*[8] constructs larger constituents out of individual syntactic objects by taking a pair of syntactic objects (SO_i

and SO$_j$) and replacing them with a new object SO$_k$. The outcome is a new SO, which is the projection of one of its two subcomponents and which may then combine with another SO, and so on. Operation *Agree* establishes a relation (agreement, Case-checking) between a SO and a feature in its domain. Unlike *Merge*, this syntactic operation is language specific and is analyzed in terms of feature-movement (*Attract*).

Finally, operation *Move*, a combination of *Merge* and *Agree*, identifies an item within the structure already built, copies that item and merges it with another SO, giving rise to larger and larger constituents. Each application of *Merge* (or any other syntactic operation) moves the derivation a step forward and stops at some point when no further syntactic operations can be applied.

2.4.3 Formal Features and Functional Categories

Chomsky (1995) proposes that functional categories dominate lexical categories and that each syntactic operation is basically a movement of features of functional categories which are either [+strong] or [-strong]. When the feature is [+strong], it triggers an overt syntactic operation, while [-strong] features trigger covert movement. The overt movement of strong features requires that the word to which the features are attached move together with its features to converge at PF (for example, in English, the *wh*-phrase moves overtly to [spec, CP] because the Q feature is [+strong]).

Chomsky also distinguishes between [±interpretable] features in that [-interpretable] features do not have semantic content and are not relevant for interpretation at LF while [+interpretable] features have semantic content and play a role of meaning interpretation at LF, that is “legible to the external systems at the interface” (Chomsky, 1998, p. 7). Interpretability at LF is closely linked to feature strength, feature checking and syntactic movement. Features that are [+strong] and [-interpretable] are visible at PF and must be checked and deleted overtly before Spell-out for the derivation. When a derivation successfully terminates with all its [-interpretable] features checked, it is said to converge. If it terminates but there are unchecked [-interpretable] features, it is said to crash. Since [+strong] features are visible to PF, they will cause a PF to crash if they are not legitimate PF objects. At the same time, [-strong] features will not cause a PF to crash, even if they are not legitimate PF objects, since they are not visible to PF. On the other hand, [-strong] features will cause an LF to crash if they are not legitimate LF objects. Thus, for a linguistic expression to be grammatical, it must converge at both LF and PF.

According to MP, the locus of typological variation is the strength of the morphological features and the theoretical account of cross-linguistic variation relies on the properties of lexical items, in particular, functional categories. For example, functional categories contained within the IP are typically associated with inflectional morphological features, and their role is to check the same features on lexical categories. Although the inventory of functional categories is defined by UG, not all functional categories are instantiated in every language. In other words, languages differ as to which formal features are present and instantiated (the functional categories they select and project). Consequently, the task of a language learner may involve selecting and fixing the correct values of features out of the restricted available options.

Chomsky (1993, 1995) defined formal features as those morphological features that are encoded in each lexical item and functional head and that include categorical features (e.g., [±N], [±V]), φ-features[9], Case features and feature strength. These formal features can be intrinsic, such as gender, or optional, such as number. Intrinsic features, which are obligatory or universal, are automatically assigned in the lexicon while optional features, which are language specific, are added arbitrarily as the lexical item enters the numeration. Categorical features, φ-features of nominals, and *wh*-features are argued to be [+interpretable]. Strength of a feature, the Case-assigning feature of verbs [assign Nominative Case, assign Accusative Case], φ-features of verbs and adjectives are [-interpretable]. The following example (1) from Chomsky (1995, p. 277) illustrates how feature checking takes place.

(1) *we build airplanes*

According to Chomsky, the operations interpreting (1) at LF will recognize that *we* is a noun (N) with the φ-features of [plural], [+human], [1 person], *build* is a verb (V), and *airplanes* is a noun (N) with the φ-features [plural], [-human], [3 person]. However, the Case features of *we* and *airplanes* and the φ-features and the Case-assigning feature of *build*, cannot be interpreted at LF by these operations since they are [-interpretable] features and must be checked and deleted before the derivation arrives at LF. Thus, interpretability at LF is clearly an important property of features since it accounts for their accessibility to the C_{HL}.

Following Chomsky, this thesis assumes only one inflectional node in the verbal phrase structure, namely, IP, which is taken to include all verbal inflectional properties under one syntactic head. Inflection (INFL) is a label that hosts all the elements that constitute inflectional complex. Some of the elements that make up the INFL are T(ense), Aspect, and Mood (for more on feature geometry, see Cowper, 2005). The Tense system is very simple, consisting of a single opposition traditionally described as [± past] or

[± tensed]. Agr(eement) is not postulated as a category[10] in English and consequently, it is not a separate syntactic head but a feature of T(ense) since AgrS and T are fused together into a single node. Thus, INFL is a matrix of verbal functional features which include [± finite]/[±tensed], φ-features of person and number (or the agreement), as well as [± past]. Forms [+finite] are also [+tensed] and include [+past] (reference to the past) and [-past] (present & future temporal reference). Forms [-finite] are [-tensed] and include infinitives, participles and gerunds. English *will* is syntactically present tense, that is [-past], with the Mood feature distinguishing it from simple present.

In sum, under current views of syntactic theory, that is, the Minimalist Program (Chomsky, 1995, 1998; Dekydtspotter et al., 1997; Herschensohn, 1997, 2000, 2001), the computational principles are considered identical cross-linguistically, and the differences between languages are linked to the lexicon and morphology. In other words, cross-linguistic variation is reduced to the morpholexical level and the task of language acquisition (native or non-native) is the learning of the formal features and abstract morphological properties associated with lexical items (Herschensohn, 2000). Consequently, given that syntax is a function of the morphological features of lexical items, the focal point of language acquisition is to master these features and link them to the corresponding functional categories.

During L1 acquisition, children select features from a universal inventory and map them to the morphemes they acquire. In L2 acquisition, learners are faced with two possible situations: (1) if both languages share the same functional category, the learners must acquire the L2-particular formal features that correspond to that functional category as well as the morphemes to which these features are mapped; (2) if the L2 contains a functional category not found in the learners’ L1, the learners must acquire the category in addition to its morphological features.

Several recent studies on tense and agreement inflectional morphology in L2 English demonstrate great variability in suppliance of inflections in oral production (Haznedar, 2001; Ionin & Wexler, 2002; Lardiere, 1998a, 1998b, 1999; Prévost & White, 2000; White, 2002). The two main positions to account for this phenomenon within the generative grammar framework are impairment (Beck, 1998; Eubank, 1994; Meisel, 1997) and missing surface inflection (Gavruseva & Lardiere, 1996; Haznedar & Schwartz, 1997; Herschensohn, 2001; Lardiere, 1998b, 2000; Prévost & White, 2000; Schwartz & Sprouse, 1996; White, 2002). The former view attributes L2 learner use of nonfinite verbs in place of finites to an impairment or underspecification of functional categories and/or features in L2 grammar while the latter argues that L2 learners have abstract features for finiteness and agreement in their IL representation and that the problem lies in mapping these abstract features to the corresponding surface morphology.

Given that numerous morphological features are not represented overtly in IL grammars, text enhancement might serve as a means to focus L2 learner attention on problematic features and to allow these learners to notice the gap between the target language and their own IL. In other words, visually enhancing the morphological features that L2 learners have failed to represent overtly after having been exposed to the TL over a long period of time might help these learners notice and make subsequent use of these features in their IL.

2.5 Research Questions

The research questions formulated to investigate the effect of text enhancement on two English verbal features, 3PS and *will*-future, are as follows:

1. Can typographically enhanced input of the bound morpheme -*s* in the English third-person present indicative verb (3PS) facilitate the "noticing"[11] and subsequent acquisition of this feature by adult L1 Haitian Creole speakers?
2. Can typographically enhanced input of the free future reference morpheme *will* (*will*-future) facilitate the noticing and subsequent acquisition of this feature by adult L1 Haitian Creole speakers?
3. Will learners receiving textually enhanced input of the free verbal morpheme *will* demonstrate a more accurate ability to recognize and produce the target feature than learners who receive enhanced input of the bound verbal morpheme 3PS?
4. If textually enhanced input positively affects learner "noticing" and acquiring these two grammatical morphemes, will textually enhanced input continue to maintain such an effect over the post-test period of three weeks?
5. Does "noticing" the target features developed by learners during the enhanced treatment correlate positively with their subsequent acquisition of these target features?

2.6 Research Hypotheses

To answer these research questions, four hypotheses were formulated based on the evidence and indication given by previous research on input enhancement, and text enhancement in particular.

Hypothesis A

Learners receiving enhanced input of the bound morpheme -s in the English third-person present indicative verb will demonstrate a better and more accurate *ability to recognize and produce the target feature than learners who receive unenhanced input.*

Hypothesis B

Learners receiving enhanced input of the free morpheme will *will demonstrate a better and more accurate ability to recognize and produce the target feature than learners who receive unenhanced input.*

Hypothesis C

The effect of text enhancement will hold over a long period of time (three weeks after the treatment).

Hypothesis D

Learners receiving enhanced input of the free morpheme will *will demonstrate a better and more accurate ability to recognize and produce the target feature than learners who receive enhanced input of the bound morpheme 3PS.*

Hypotheses A, B, and C are based on Schmidt's (1990, 1994, 1995) claim that noticing a grammatical form is required for the acquisition of that form and on research findings by Doughty (1991), Jourdenais et al. (1995), Shook (1994), Williams (1999), and others, who have shown that textual enhancement was effective in acquiring target features. Hypothesis D is based on VanPatten's (1995, 1996, 2004) model of input processing according to which learners tend to process more meaningful grammatical forms before they process less meaningful ones.

2.7 Summary of Chapter 2

In sum, this chapter has attempted to define the construct of input and its role in second language acquisition from three different perspectives: Gass's integrated model of

SLA (Gass, 1997; Gass & Selinker, 1994), which determines the nature and function of input in second language learning; VanPatten's model of input processing (VanPatten, 1996, 2004), which defines how language learners make use of the input available to them; and Chomsky's generative approach (Chomsky, 1995, 1998), which ascribes significant portions of the adult knowledge of language to UG and confers a secondary role to linguistic input. In line with Bardovi-Harlig (2000), who has suggested that crossing the boundaries of research frameworks would benefit all areas of research, this thesis attempts to integrate the three research frameworks described in this chapter into one research design in order to test and explore data on L2 acquisition and to guide readers to a fuller understanding of the patterns of L2 acquisition.

The next chapter describes the experimental design and methodology employed to investigate the role of text enhancement on the acquisition of two English morphemes, 3PS and *will*-future, that the φ-features, the mood feature, and the formal feature [-past] are mapped onto.

Notes for Chapter 2

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1 Negative evidence refers to implicit or explicit information concerning the ungrammaticality of the learner's utterance.

2 Communicative value refers to the degree to which the linguistic feature contributes to the overall understanding of the propositional content of utterances. For example, if an item with low communicative value is removed from the input, the propositional content of the message is not affected. Conversely, a feature with high communicative value removed from the input would alter the informational content of the message.

3 A grammatical feature is "redundant" if it fails to contribute to the propositional meaning of the message in which it occurs. In other words, it occurs in contexts where other signals convey the same meaning. According to Ellis (2001), some grammatical features (e.g., English 3PS and auxiliary *be*) are invariably redundant. These features are often learned late or not at all.

4 White (2002, 2003) uses the terms *endstate* and *steady state* interchangeably with reference to the final state of IL development in L2 learners.

5 The term *feature* refers to the smallest structural unit expressing grammatical properties. There are phonetic features (e.g., [± voice]), (morpho)syntactic features (e.g.,[± past]), and semantic features (e.g.,[± animate]). According to Chomsky (2002), *features* are properties that enter into the computational system.

6 The initial view of parametric variation associated parameters with principles of UG. Within MP, parametric variation associates parameters with the individual lexical items of different languages (Roberts, 1997).

7 A derivation can be thought of as the result of successfully applying syntactic operations to syntactic objects to form successively larger objects.

8 Operation Merge, the fundamental structure-building operation, is binary, that is, only pairs of syntactic objects can be merged in any one operation.

9 Features involved in agreement, such as number, person and gender. Since verbs are pulled out of the lexicon fully inflected, φ-features are in the verb all along.

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[10] Agr consists of strong features that induce overt movement and no such overt movement is induced by Agr in English. Consequently, according to Chomsky (1995), there is no motivation to postulate the existence of Agr in English.

[11] Following Schmidt (2001), this thesis uses *noticing* as a restricted technical term equivalent to Gass's *apperception* (1997), Tomlin &Villa's (1994) *detection with selective attention*, and Robinson's (1995) *detection plus rehearsal in short-term memory*.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

This chapter presents the pilot study and the overall experimental design of the main study and describes the target forms, participants, procedures and instructional materials, as well as the data collection and the manner in which the results were coded and analyzed.

3.1 The Pilot Study

A small-scale experimental pilot study[1] was conducted prior to carrying out the actual study in order to test the materials and procedures and to assure that the tasks were effective for eliciting the target forms and that the participants understood the materials. In general, each part of the pilot study was carried out as projected and the materials were found suitable for the purposes of the experiment.

The pilot study participants were 15 adult L1 Haitian Creole speakers (age range 40-56) who have resided in the United States for a minimum of 11 years. Twelve of the participants were former or current students of the ESL literacy program at Catholic Charities Archdiocese of New Orleans Immigration and Refugee Services. Starting in 1996, the program has aimed at developing basic reading and writing skills in English for Haitian refugees whose goal is to pass the BCIS (former INS) test and become U.S. citizens[2].

The pilot investigated the effect of textual enhancement on participant acquisition of the English present tense third-person singular agreement marker *–s* (3PS). The participants were randomly assigned to one of the three instructional conditions: (1) textually enhanced target form by enlargement and red coloring (Red Group); (2) textually enhanced target form by enlargement and boldface (Bold Group); (3) the same text without enhancement (Control Group).

The treatment materials for the pilot study included a reading text followed by 15 *wh*-questions that aimed at eliciting the target form (3PS). The pilot subjects were able to read aloud the treatment passage and to respond to the comprehension questions following the passage. Their ability to answer the questions implied that they both understood the passage content and the questions themselves.

The original pilot materials measuring the subjects' knowledge of the target feature (3PS) included three tasks: (1) a grammaticality judgment task, (2) a reading task, and (3) a picture description task. Each task was administered three times: prior to the treatment (at pretest), immediately after the treatment (at post-test), and one week later (at delayed post-test). Two balanced versions of each task (A & B) were administered in one of the two sequences ABA or BAB in order to eliminate any effects the tasks could have on participant post-test performance. For the grammaticality judgment task, the verbs that were grammatically correct (contained the target feature) in version A were ungrammatical (lacked the target feature) in version B and vice versa. For the reading task, the main difference between the two versions was that the central character in the first narrative (version A) was a woman while in the second (version B) it was a man. For the picture description task, a female or male character was involved in the same everyday activities for versions A and B, respectively (for more detail see section 3.5.5).

Since both testing and treatment sessions were administered individually, there were no time restrictions on any task. The time each participant spent to complete each task ranged from 5-35 minutes. Consequently, it was decided not to place any time constraints on the main study participants.

The results of the data obtained from the grammaticality judgment task and the picture description task were excluded from statistical analysis. For the grammaticality judgment task, the participants judged both grammatically correct and incorrect sentences as correct. For the picture description task, of the 450 possible target forms—30 for each subject (10 x 3)—only seven high frequency verbs (*goes*, *eats*, *drinks, gets up, reads, talks,* and *takes*) were pronounced with the target form (1.6%) by a total of 4 subjects (two from each enhanced group).

The results of the reading task underwent statistical analysis. To assess the relative effects of the three treatment conditions, raw scores from each reading task were submitted to one-way analyses of variance (ANOVA) with repeated measures design. When ANOVAs revealed significant between-group differences, post hoc Tukey’s HSD procedures were carried out to locate the source of these differences and the alpha level was set at .05.

The ANOVAs performed on pretest scores revealed no differences among the groups before instruction ($F_{2,\,38} = 1.070$, $p = .353$). Consequently, one can conclude that all three groups were equal in terms of their usage of 3PS before the experimental treatment started and that any post-test statistically significant differences found among the groups can be attributed to an effect of the experimental treatment.

Repeated measures ANOVAs demonstrated statistically significant differences among the means of the pretest, post-test, and delayed post-test for each of the two enhanced treatment groups (Red group: $F_{2, 39} = 15.31$, $p = .000$; Bold group: $F_{2, 38} = 15.11$, $p = .000$). There was no difference among the means in the Control group ($F_{2, 37} = .875$, $p = .425$). Statistically significant differences were also found among the three groups on post-test ($F_{2, 39} = 16.48$, $p = .000$) and delayed post-test ($F_{2, 38} = 10.98$, $p = .000$). Table 3.1 displays the means and standard deviations of the pretest, post-test and delayed post-test scores for the three groups.

Table 3.1 Means and Standard Deviations of the Pretest, Post-test, & Delayed Post-test Scores for the Pilot Reading Task

Group	N	Pretest		Post-test		Delayed Post-test	
		M	SD	M	SD	M	SD
Red	5	.214	.579	*3.21	2.04	*2.14	1.35
Bold	5	.000	.000	*3.14	1.88	*2.43	1.87
Control	5	.154	.376	.143	.363	.154	.376

* The mean difference is significant at the .05 level

Post hoc Tukey HSD analyses showed statistically significant differences for each of the enhanced groups between the pretest and post-test ($p < .01$), and the pretest and delayed post-test ($p < .01$). Post hoc analyses also showed statistically significant differences on post-test between the Red and Control groups ($p < .01$) and between the

Bold and Control groups ($p < .01$) and on delayed post-test between the Red and Control groups ($p < .01$) and the Bold and Control groups ($p < .01$).

It should be noted that there were no differences between the two enhanced groups either at post-test ($F_{1,26} = .009$, $p = .92$) or at delayed post-test ($F_{1,26} = .215$, $p = .647$). In other words, both textually enhanced treatments were superior to the unenhanced treatment. Furthermore, post hoc analyses showed no post-test-to-delayed post-test difference for the two enhanced groups (Red group: $F_{1,26} = 2.69$, $p = .114$; Bold group: $F_{1,26} = 1$; $p = .32$) revealing no deterioration of the acquired knowledge.

The results of the pilot study revealed that to better understand the effects of text enhancement on target language morphology acquisition, it was important to increase the number of participants. In order to expand the study and to contrast the bound verbal 3PS, a second dependent variable, the future reference[3] *will,* was added to the main study design. Also, to measure the subjects' acquisition of the target form, a free response task which would be less constrained than the picture description task and which would provide more opportunities for personal expressions of real time was added. A few other changes were made to the design and materials of the main study. For example, several reviewers recommended merging the two textually enhanced treatment groups (Red & Bold) and creating one textually enhanced group (Enhanced) for each of the dependent variables in the main study. This advice was followed since these suggestions were in line with the findings of other researchers, who used different combinations of text enhancement within the same research design: color, caps, and underlining (Doughty, 1991); bolding, larger fonts, underlining, and shadowing (Jourdenais et al., 1995); bolding and underlining (Leow, 1997); enlargement, bolding, italics, and underlining

(White, 1998), color and highlighting (Leeman et al., 1995), to name a few. This change was also supported by the results of the statistical analyses that revealed no difference ($p < .01$) between the two types of enhancement (boldfacing and coloring red) used in the current study. Therefore, combining Red and Bold groups into one Enhanced group allowed the researcher to keep larger cell sizes to lower the risk of missing significant effects and interactions. In addition, since the pilot participants of the two enhanced groups demonstrated no statistically significant loss in the acquired knowledge one week after the treatment, it was decided to extend the interval between the post-test and delayed post-test to three weeks in order to counteract any possible practice effects and to further confirm or reject this finding.

Several other benefits gained through the implementation of the pilot study led to minor changes in the instruments. Based on the performance of the pilot subjects, one task, the reading task, was revised to eliminate ambiguous phonological contexts where it was unclear whether the /s/ in question was the onset or the coda. For example, the phrase *spends some time* was replaced by the phrase *spends an hour* in the main study. As for the treatment, the number of *wh*-questions was increased to provide more exposure to the target form and some questions were reformulated for greater lucidity.

To summarize, the administration of the pilot study contributed to further refinement and adjustment of the research design and methodology that were implemented in the main study and led to the following main changes in the study design: (1) adding a second dependent variable, future reference *will* (see section 3.3.1); (2) combining the Bold group and the Red group into one Enhanced group; (3) extending the interval between the post-test and delayed post-test to three weeks; and (4) adding the second acquisition measure, a free response task.

3.2 Overview of the Research Design

The major aim of the present study, conducted in the context of focus-on-form instruction where attention to form is accomplished within a meaning-based approach to language learning, is to examine how textual enhancement will affect the acquisition of two morphological features of the verbal functional category of Tense with different semantic values: the bound morpheme *-s* in the English third-person indicative verb (3PS) and the free future reference morpheme *will (will*-future*)*.

Seventy-two subjects participated in the main study: half (N = 36) engaged in the experiment with 3PS (Experiment 1), and half (N = 36) in the experiment with *will*-future (Experiment 2). The participants were further divided into two treatment groups within each experiment: the Enhanced group (+textual enhancement) and the Control group (-textual enhancement). Consequently, this study used four groups of subjects (the Enhanced group and the Control group for each of the two experiments): (1) those who received textually enhanced 3PS in the written input (Enhanced 3PS); (2) those who received the same written input as in (1) but without enhancement (Control 3PS); (3) those who received textually enhanced *will*-future in the written input (Enhanced *will*); and (4) those who received the same written input as in (3) without enhancement (Control *will*). Two treatment groups were compared in Experiment 1 (Enhanced 3PS and Control 3PS) and two treatment groups were compared in Experiment 2 (Enhanced *will* and Control *will*).

The major independent variable, textual enhancement, was operationalized by providing the participants with a reading text in English in which the targeted forms were typographically altered to enhance their perceptual salience.

There were two dependent variables in each experiment: (1) noticing the target feature and (2) acquiring the target feature. Each dependent variable was measured via two tasks: “noticing” by grammaticality judgment and oral reading tasks and acquisition by picture description and free response tasks. Each task was administered at the pretest (Time 1), post-test (Time 2), and delayed post-test (Time 3) level. Consequently, the between-groups factor was text enhancement and the within-group factor was time iteration.

To sum up, the following factors were included in each experiment in this study: (1) one between-groups factor—textual enhancement with two levels (+textual enhancement vs. – textual enhancement); (2) time as a within-group factor, with three levels—a pretest, a post-test, and a delayed post-test; (3) and two dependent measures: “noticing” and acquisition. Figure 3.1 provides a schematic representation of this general research design (applicable to each experiment). The materials section of this chapter elaborates on the specific materials.

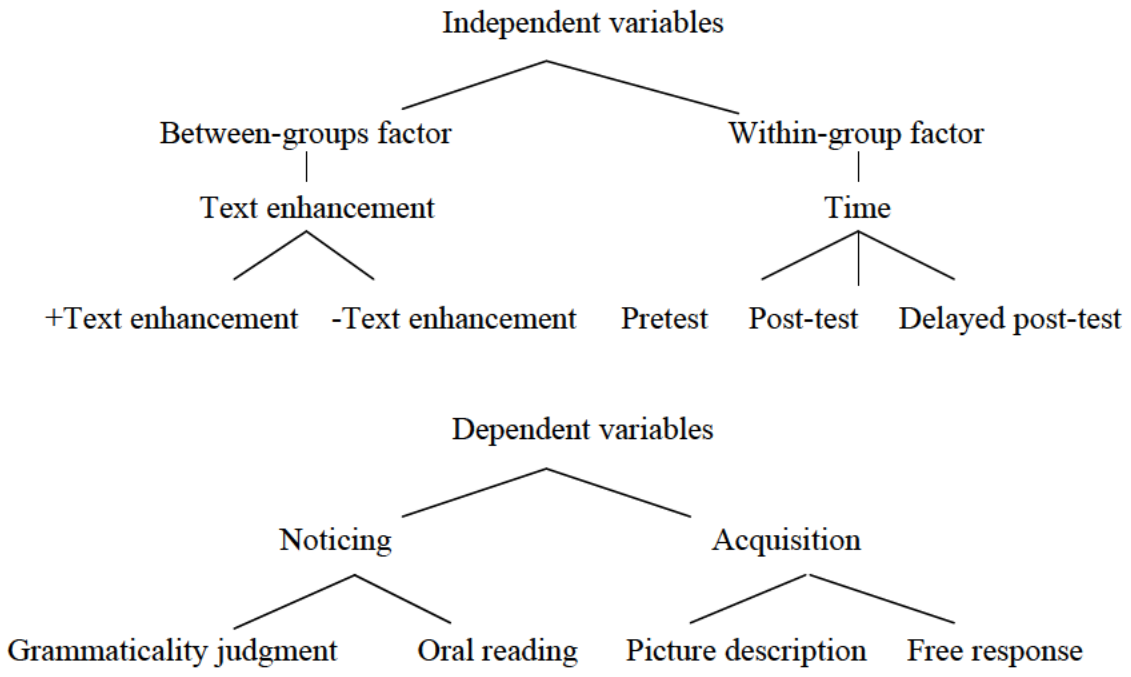

Figure 3.1 Research Design

3.3 Target Forms

3.3.1 Theoretical Background

The acquisition of verbal morphology has been a widely researched topic in L2 acquisition research within the past decade (Eubank, 1994, 1996; Grondin & White, 1996; Herschensohn, 1998, 2001; Hyams, 1996; Lardiere, 1998a, 1998b; Paradis & Genesee, 1997; Prévost & White, 2000; Radford, 1990; Schwartz & Sprouse, 1994, 1996; Vainikka & Young-Scholten, 1994, 1996, 1998). As mentioned in the previous chapter, the theoretical representation of verbal morphology within the current generative grammar approach, MP, consists of formal features of functional categories, which in turn are posited to be the locus of language variability. According to Adger (2003), functional categories construct "a syntactic skeleton above lexical categories," a skeleton which holds together “the various syntactic relations that take place in the phrase” (p. 165), with Tense (T) considered the most important functional category since it hosts the tense features for the whole sentence. Therefore, the acquisition of the functional category of T(ense) and its associated formal features [± finite]/[±tensed], [-past] and φ-features of person and number by L2 learners of English (the focus of this thesis) is of great importance in terms of both linguistic theory and language acquisition theory.

This current research examines the two linguistic items, 3PS and *will*-future, primarily for the following reasons: both forms represent functional features of T(ense) where the former is bound and encoded in the lexical item [+V] within the (I)nflectional Phrase (IP) while the latter is free and encoded in the functional head of IP. In addition, these two features reflect the distinction between focusing on forms that differ in their perceptual saliency (Sato, 1986), in their semantic charge (Long & Robinson, 1998; VanPatten, 1990, 1996), and in the amount of difficulty they present learners. At the same time, both forms abound in linguistic input, and frequency has been cited as the second most popular cause of the acquisition of grammatical morphology (Larsen-Freeman & Long, 1991).

The prime factor in L2 acquisition is considered to be L1 transfer (Goldschneider & DeKeyser, 2001) even though some researchers claim that L1 does not seem to have an obvious influence on temporal marking[4]. Consequently, because the current study controls for the L1 (all participants are native speakers of Haitian Creole) and because UG and L1 are considered complementary sources guiding IL development (see Chapter 2), the researcher finds it important to introduce some relevant information on the participants’ L1. More specifically, since this study investigates the acquisition of

English functional category of T(ense) and its associated formal features, it is important to know how this category is instantiated in the native language of the research participants.

3.3.2 Haitian Creole Verbal System

The L1 background of speakers (Haitian Creole) represents an instance in which the native language differs markedly from the target system. An offspring of French, Haitian Creole is generally considered to be a Romance language. Like English, it is not a null-subject language and it has SVO word order (the verb precedes the object and follows the subject in the unmarked order). Its phonological system and basic lexicon are French while its morphology and syntax reflect features of West African languages, such as Wolof, Fon, Ewe, and Mandingo (Hall, 1966). In Haitian Creole, the verb in a tensed clause is invariant and always occurs in its simple form. There are no subject-verb agreement markers for person or for number, and no affixes encoding tense, mood, or aspect. Temporal relationships, mood, and aspect are encoded by means of markers occurring between the subject and the verb (Lefebvre, 1998). Figure 3.2 presents the inventory of Tense, Mood, and Aspect (TMA) markers in Haitian Creole.

ANTERIOR	IRREALIS	NON-COMPLETE
Past/Past Perfect	Definite Future	Habitual
te	*ap*	–
	Indefinite Future	Imperfective
	ava (a, av, va)	*ap*
	Subjunctive	
	pou	

Figure 3.2 The Inventory of Tense, Mood, & Aspect Markers in Haitian Creole (adopted from Lefebvre, 1998, p. 112)

According to Lefebvre, Haitian Creole allows for "bare sentences"– sentences which contain no overt expression of tense, mood, or aspect. A bare sentence containing a stative verb is always interpreted as present, as in (1).

(1) Marie kònnèn Jan.
Mary know John
Mary knows John.
=(60) in Lefebvre, 1998)

However, the temporal interpretation of most bare sentences is computed from the various components that participate in establishing the aspectual properties of a clause: the aspectual class of the verb, the definiteness of the subject, and the definiteness of the direct object of the verb. For example, an indefinite subject induces a generic interpretation of the sentence (general present), as in (2a), while a definite subject induces a present perfect interpretation of the event denoted by the verb, as in (2b). Note that a noun phrase is definite if it has the postnominal determiner *la* or its allomorphs *a, an, nan*.

(2) a Mayi ba nou bon garanti.
Corn give us good profit
Corn (generally) brings us good money.

b Mayi a ba nou bon garanti.
Corn DET give us good profit
The corn has brought us good money.
(=(58) in Lefebvre, 1998)

The definiteness of the object may also have the same effect on the interpretation of a bare sentence. For example, in (3), the definiteness of the object imposes a present perfect interpretation of the bare sentence.

(3) Mari prepare pat la.
Mary prepare dough DET
Mary has prepared the dough.
(=(56) in Lefebvre, 1998)

However, a bare sentence containing a dynamic verb with an indefinite object is ambiguous: it may be interpreted either as general present, as in (4a) or as past, as in (4b).

(4) Mari prepare pat.
Mary prepare dough
a *Mary (generally) prepares dough.*
b *Mary prepared dough.*
(=(57) in Lefebvre, 1998)

A bare sentence containing a resultative verb is also ambiguous. However, the ambiguity is between a present and a present perfect interpretation, as in (5).

(5) Mari wè volè (a).
Mary catch-sight-of thief DET
a *Mary catches sight of the thief.*
b *Mary has caught sight of the thief.*
(from (59) in Lefebvre, 1998)

The data presented above demonstrate that the temporal interpretation of Haitian Creole bare sentences ranges from past through present perfect to general present and it is computed from the various components defining the aspectual properties of the clause. At the same time, as Figure 3.2 demonstrates, Haitian Creole implements a system of markers to express tense and aspect. For example, sentences containing the preverbal marker *ap* are assigned a progressive interpretation if they contain a dynamic verb, as in (7).

(7) Marie ap manje krab la.
Mary IMP eat crab DET
Marie is eating the crab.
(=(16) in Lefebvre, 1998)

However, if sentences with the preverbal marker *ap* contain resultative or stative verbs, as in (8a, 8b), they are interpreted as future.

(8) a Jan ap wè volè a.
John FUT catch-sight-of thief DET
John will catch sight of the thief.

b Jan ap kònnèn Marie.
John FUT know Marie
John will know Marie.
(from (17) in Lefebvre, 1998)

On the other hand, a sentence containing *ap* may be assigned a habitual interpretation if the temporal adverb *toutan* (“all the time”) appears in the sentence, as in (9).

(9) Mari ap joure toutan.
Mary IMP swear all the time
Mary swears all the time.
(=(18) in Lefebvre, 1998)

According to Lefevre, Haitian Creole has two future markers: the definite future marker *ap* and the indefinite future marker *ava* (and its allomporphs *va, av, a).* The definite future marker *ap* conveys the definiteness of the event. In other words, the event referred to by the clause with the marker *ap* will definitely take place in the near future, as in (10a). The indefinite future marker *a-va,* on the other hand, conveys the potentiality of the event. In other words, the proposition containing the indefinite future marker *a-va* conveys the meaning that the event might probably take place at some time in the future, as in (10b).

(10) a M' ap vini.
I DEF-FUT come
I will definitely come.

b M' a vini yon jou.
I IND-FUT come one day
I will/might eventually come one day.
(=(26) in Lefebvre, 1998)

Both, the definite and the indefinite future markers can occur with verbs of all three aspectual classes, as shown in (11), (12), and (13).

(11) Dynamic verb

a Mari ap prepare pat.
Mary DEF-FUT prepare dough.
Mary will prepare dough.

b Mari a-va prepare pat.
Mary IND-FUT prepare dough
Mary will eventually prepare dough.

(12) Resultative verb

a Mari ap wè Jan.
Mary DEF-FUT catch sight of John
Mary will catch sight of John.

b Mari a-va wè Jan.
Mary IND-FUT catch sight of John
Mary will eventually catch sight of John.

(13) Stative verb

a Marie ap kònnèn Jan.
Mary DEF-FUT know John
Mary will know John.

b Marie a-va malad.
Mary IND-FUT sick
Mary will eventually be sick. (from (27 & 41) in Lefebvre, 1998)

As demonstrated above, Haitian Creole has no system of inflectional morphology remotely comparable to English[5], a fact which makes the current study participants' L1 and the target language highly divergent in their overt representation of time. At the same time, Haitian Creole has several free morphemes placed before the verb to mark temporality, temporal markers which reveal some similarities between the two languages, especially in representing future time. Consequently, one of the reasons for selecting the target features for the current research (3PS and *will*-future) was the fact that even though both the L1 and target language have the functional category of T(ense**)**, the formal features associated with this category differ. Consequently, in acquiring the target features (3PS and *will*-future), L1 Haitian Creole speakers do not need to acquire a new functional category; they just need to learn the formal features and abstract morphological properties associated with this category in the target language in order to represent them overtly in their IL. The following section describes the two target features, English 3PS and *will*-future.

3.3.3 English Verbal Morphological Feature –*s* (3PS)

A number of researchers working on both L1 and L2 acquisition have studied the first form in focus, the morphological verbal feature 3PS, extensively (for a relevant discussion, see Zobl & Liceras, 1994). These studies have provided a rich source of information about the order in which 3PS is acquired and about the processing problems learners face in producing this form.

More specifically, the form in focus has long been a contentious topic because of its form-function complexity. Some researchers claim that 3PS is a formally simple and easy to learn form (Bialystok, 1979; Green & Hecht, 1992; Krashen, 1982), while others define it as a formally complex form, problematic to acquire (DeKeyser, 1998; Goldschneider & DeKeyser, 2001). According to Ellis (1990), this bound inflectional morpheme is formally complex but eventually learnable (when the learner is developmentally ready for it). Although Krashen and Ellis seem to agree that 3PS is functionally simple, DeKeyser argues that it is a semantically complex form and that "its form-function relationship is far from transparent, because one morpheme expresses several semantic concepts at the same time (present tense, third person, singular number)" (p. 44). Thus, only when these different components of meaning coincide does this morpheme emerge in the learner IL. In addition, being a consonant in word final position makes this form relatively less perceptually salient than surrounding linguistic constituents and consequently difficult to hear and pronounce. Its morphophonological irregularity comprises a number of phonological alterations (3PS has three allomorphs [s, z, ɪz]), and homophony with other grammatical morphemes (plural -*s* and possessive –'*s*). However, failure to assign this verbal morpheme accurately does not result in loss of meaning since it occurs in contexts where there is always some other signal of the meaning it conveys. Together this morphophonological irregularity and redundancy contribute to the problematic nature of the acquisition of this grammatical morpheme (Goldschneider & DeKeyser, 2001).

There is evidence (e.g., Haznedar, 2001; Ionin & Wexler, 2002) that L2 English learners omit the 3PS both in oral and written production. At the same time, L2 learners often overgeneralize and utilize this form inappropriately with any subject rather than just with the third-person singular, an overuse which suggests that -*s* omission is not purely phonological in nature (Ionin & Wexler).

Thus, the fact that this form is frequent in linguistic input but lacks perceptual salience and is difficult to acquire makes it an appropriate target item for input enhancement research and text enhancement in particular since learners might need to be encouraged to notice this form by means of techniques based on increased saliency rather than on increased frequency. Doughty and Williams (1998) note that forms "frequent in the input" yet still lacking "salience for learners" might require "other means . . . to induce learners to notice" (p. 220); these researchers further suggest that input enhancement techniques aid the acquisition of such frequent but nonsalient grammatical forms as 3PS.

Therefore, this study explores the effect of text enhancement on the acquisition of the feature [-past] as well as φ-features [3 person] and [singular number] expressed by a bound morpheme *s* and encoded in the lexical item [+V] within the IP. In doing so, it fills a gap in research since no research is presently available on the potential facilitative role of this kind of instructional intervention on the acquisition of this target form by L2 learners of English.

3.3.4 English Verbal Morphological Feature *will*-future

The second form in focus, the English future reference morpheme *will (will-*future), was chosen as a counterpart to the 3PS. This free, perceptually salient[6] (Goldschneider & DeKeyser, 2001), simple, invariant verbal morpheme is acquired later than 3PS but does not seem to present difficulties to language learners (Bardovi-Harlig, 2004a). Even though this morpheme has not been studied as extensively as 3PS and studies of production data for either L1 or L2 English do not report an acquisition order for *will*, L2 naturalistic studies and empirical research (Bardovi-Harlig, 2004a, 2004b, 2005; Dietrich, et al., 1995; Schumann, 1987) have demonstrated that *will* emerges before other expressions of future reference and that it is the most frequently used expression of futurity. In fact, according to Crystal (2003a), there are six main ways to refer to future time: the Simple Present (*My birthday falls on a Thursday this year*), the Present Progressive (*He is leaving tomorrow*), the expressions *be going to* + infinitive (*The package is going to arrive tomorrow*), *be to* + infinitive (*The train is to arrive at 7*), *be about to* + infinitive (*He is about to leave*), and different modals including the modal *will* (*He will write to you soon).*

There exists a wide and varied literature dealing with issues related to the expressions of future in English and there is a considerable disagreement among scholars on whether or not English has a future tense (for overview of the discussion, see Close, 1977). Some scholars accept the notion of a future tense in English and argue that *will* “can be used to make purely neutral and factual statements about future events” (Wekker, 1976, p. 18). Others claim that English verbs have only two tenses, those traditionally called the Present Simple (*play*) and the Past Simple (*played*) (Crystal, 2003a; Huddleston & Pullum, 2002; Lewis, 2002). This claim is supported by the facts that future tense is not marked in English by means of inflectional morphology, that there is no single, distinct way to refer to the future in English, and that the constructions used for future reference do not exclusively express futurity (for example, the form in focus, *will* also has a modal meaning).

The issue of whether *will* is or is not a modal is still not settled either (Abusch, 1997). For example, Heim (1994) treats *will* as a pure tense marker, Kamp and Reyle

(1993) refer to it as the “future tense auxiliary” while others (Condoravdi, 2002; Crystal, 2003a; Enç, 1996; Huddleston, 1984; Prior, 1967) view it as a modal.

Even though researchers disagree as to whether or not English has future tense and whether or not *will* is a modal, they concur that one of the main functions of this grammatical form is to express future time reference. Moreover, there is a consensus among researchers that the expression of future time reference is dominated by *will* in both written and oral corpus (Bardovi-Harlig, 2004b, 2005; Berglund, 2005; Salsbury, 2000). This study aims to explore the effect of text enhancement on L2 learners’ acquisition of *will* in this particular function (future time reference).

In addition, this study adheres to the current generative grammar categorization of *will* as a functional category (functor) which lacks specific descriptive content and has the semantic function of marking grammatical properties associated with the relevant verb (Adger, 2003; Radford, 1997, 2004). More exactly, *will*-future will be treated as an auxiliary[7] in line with Kamp and Reyle (1993), who claim that this auxiliary is best understood as a future-tense marker interpreted against a linear model of time.

This thesis investigates the effect of text enhancement of the future tense feature on its acquisition by L2 learners of English when the future is signaled by a free morpheme *will* and encoded within the functional head of the IP. At present, there is no research available on the potential facilitative role of this kind of instructional intervention on the acquisition of this target form, so this thesis will fill a gap in the study of this effect. In addition, this research explores whether or not textual enhancement will differently affect the acquisition of this free future reference morpheme *will* and a bound morpheme 3PS.

3.4 Participants

All subjects participating in this study were volunteers who responded to a "Request for Participation" distributed among members of the local Haitian community. The researcher distributed the Request for Participation at different functions organized by the New Orleans Haitian Association and by Haitian churches. In addition, former ESL Literacy students at Catholic Charities Archdiocese of New Orleans Immigration and Refugee Services assisted the researcher in recruiting participants for the study. Only those respondents who satisfied all of the following criteria defined in the Request for Participation were selected as subjects of the study: (a) 18 years old or older; (b) native speakers of Haitian Creole; (c) maximum of 5-7 years of classroom experience in their native country; (d) 5 years minimum residency in the United States; (e) basic communication skills in English; (f) basic reading skills in English (For the full form see Appendix C).

Consequently, the participants were expected to be comparable in their English proficiency and to possess a vocabulary and reading and writing skills sufficient to enable them to complete the treatment and testing tasks. Moreover, having obtained language knowledge mostly naturalistically over a long period of time, they were expected to have received sufficient exposure to the targeted forms (3PS and *will*-future), forms abundant in the linguistic input.

The participants for this study were 72 adult L1 Haitian Creole speakers (29 males and 43 females) who understood and spoke English at a basic communication level and read and wrote at a minimal level. The total subject pool initially consisted of 92 participants. However, participants who did not meet the above mentioned criteria (n =

16) or scored higher than 80% on grammaticality judgment task (n = 2) and reading task (n = 2) were removed from the study since their knowledge of the target structure might have affected study results. Thus, the final number of participants was reduced to 72. Even though most of the participants were residents of the New Orleans Metro Area, some of them (n = 22) had moved to New Orleans from Florida less than a month prior to the study.

A background questionnaire was used to obtain information about participants' education level and experience with English. All participants stated that they had regular contact with native speakers of English and used English at work and while shopping. They also stated that they used Haitian Creole at home, in church, and with friends (see Appendix D for subjects' demographic information).

It should be noted that reported education in Haiti and in the US was approximated by the subjects themselves. Recorded in years, the figures do not provide reliable data since their education in Haiti was never regular or continual. Likewise, their education in the US was limited to irregular attendance at different adult ESL programs. For that reason, the three participants who claimed 10 years of education in Haiti were not excluded from the subject pool. Table 3.2 presents information regarding the age of the participants, length of residence in the US, and years of schooling at the time of the study.

Table 3.2 Participants Information for the Study

Measure	Age	LOR	Education	
			Haiti	United States
Mean	43.6	14.9	4.44	2.47
SD	8.86	6.76	2.58	1.46
Median	42.0	13.0	5.0	2.0
Low	29.0	5.0	0	0
High	60.0	25.0	10.0	6.0

LOR = Length of residence in years

Table 3.3 and Table 3.4 present participants' information regarding their age, length of residence in the US, and years of schooling at the time of the study for Experiment 1 (3PS) and for Experiment 2 (*will*-future), respectively.

Table 3.3 Participants Information for Experiment 1 (3PS)

Measure	Age	LOR	Education	
			Haiti	United States
Total 3PS				
Mean	44.3	15.0	4.72	2.89
SD	8.97	6.05	2.17	1.28
Median	43.0	13.0	5.0	3.0
Low	31.0	7.0	1.0	1.0
High	60.0	25.0	10.0	6.0
Enhanced 3PS				
Mean	45.0	15.0	4.5	2.72
SD	9.61	5.46	2.48	1.27
Median	43.0	14.0	1.0	3.0
Low	31.0	7.0	0	1.0
High	59.0	24.0	10.0	6.0
Control 3PS				
Mean	43.5	15.0	4.94	3.06
SD	8.49	6.75	1.86	1.3
Median	43.0	13.0	5.0	3.0
Low	31.0	7.0	1.0	1.0
High	60.0	25.0	7.0	5.0

LOR = Length of residence in years

Table 3.4 Participants Information for Experiment 2 (*will*-future)

Measure	Age	LOR	Education	
			Haiti	United States
		Total *will*		
Mean	43.0	14.8	4.17	2.06
SD	8.83	7.49	2.94	1.53
Median	4.1	13.0	4.0	2.0
Low	29.0	5.0	0	0
Mean	43.0	14.8	4.17	2.06
		Enhanced *will*		
Mean	42.4	15.0	4.50	2.72
SD	8.61	5.46	2.48	1.27
Median	41.5	14.0	1.0	3.0
Low	31.0	7.0	0	1.0
High	59.0	24.0	10.0	6.0
		Control *will*		
Mean	43.6	15.3	4.11	2.00
SD	9.26	8.1	2.7	1.71
Median	41.0	12.0	4.5	1.5
Low	29.0	5.0	0	0
High	59.0	25.0	9.0	6.0

LOR = Length of residence in years

All subjects accepted for the study were randomly assigned to one of four groups: (1) Enhanced 3PS, (2) Control 3PS, (3) Enhanced *will*, (4) Control *will*. Care was taken, however, to maintain a similar number of subjects in each group. Thus, the distribution of participants by groups was even as Table 3.5 indicates.

Table 3.5 Summary of the Participants' Assignment by Number & Gender

	Experiment 1		Experiment 2		Total
Group	Enhanced 3PS	Control 3PS	Enhanced *will*	Control *will*	
N	18	18	18	18	72
Male	8	7	7	7	29
Female	10	11	11	11	43

3.5 Materials

The materials used in this study were: (1) a request for participation, (2) two consent forms, (3) a background questionnaire, (4) a treatment reading passage for Experiment 1 (3PS), (5) a treatment reading passage for Experiment 2 **(***will*-future); (6) testing instruments for Experiment 1: (6a) two versions of a grammaticality judgment task, (6b) two versions of a reading task, (6c) two sets of pictures for a picture description task; and (7) testing instruments for Experiment 2: (7a) two versions of a grammaticality judgment task, (7b) two versions of a reading task, and (7c) two sets of pictures for a picture description task.

Permission to collect data was obtained from the Tulane Institutional Review Board (approval number UT0723). The following sections describe the nature and content of these materials one by one.

3.5.1 Request for Participation

The Request for Participation included a short written description of the experiment, detailing the explicit advantages accruing from taking part in it, the criteria for participation, and the contact information (see Appendix A).

3.5.2 Consent Forms

Each participant received two consent forms prior to the first testing procedure. The first form obtained participant permission to access and publish the results of their data, agreed to protect their privacy, confirmed that their participation was voluntary, and delineated the content and general goal of the study. Participants were informed that they would participate in a study of second language acquisition that would aid researchers and language instructors to create more efficient pedagogical materials. No details of the study were provided so as not to influence learner response on tasks. They were simply told that the tasks would involve reading, writing, and speaking English. The second consent form served to obtain permission to record all testing and treatment sessions. Since the language of the consent forms was more complicated than the participants' reading level, the researcher read the consent forms out loud and explained in plain words when questions arose. The participants were asked to sign the forms if they agreed to participate in the study and were assured that all information pertaining to the study would remain confidential. The consent forms can be found in Appendix B.

3.5.3 Background Questionnaire

A 10-item background questionnaire was designed specifically for this study to gather information about the subjects' gender, age, education level, and years of exposure to English, as well as the variety of contacts the learners had with English in their everyday lives. The questionnaire also served to ensure that each participant met the criteria defined in the request for participation in the study and to eliminate as subjects any individuals who did not understand written English. Those participants who were unable to read the questions and write down the answers were excluded from the study since it was clear that they would be unable to complete all the experimental tasks. The information obtained by the questionnaire is reflected in Tables 3.4, Table 3.5, and Table 3.6, and the questionnaire can be found in Appendix C.

3.5.4 Treatment Materials

In order to both assess and affect participants' "noticing" and subsequent acquisition[8] of the target forms, all treatment and assessment materials were designed to present 3PS in Experiment 1 and *will*-future in Experiment 2. A reading passage was selected to provide the participants with written input, which contained the target forms. The passage was adapted from Gianola's (2000) beginning-level adult ESL reading book and modified for each of the two experiments. The text was chosen based on two criteria. First, the content of the text was related to the everyday life of the participants (the text described a man's new job and his pastimes) and therefore the vocabulary was likely to be familiar to them. Second, the content and the targeted linguistic items were relatively easy to modify in this text.

For Experiment 1, the modifications included altering and changing verbs to eliminate irregular verbs, verbs ending in sibilant sounds, and ambiguous phonological contexts (as described earlier in the Pilot study). For Experiment 2, the same text was converted into the future time. Each text was followed by questions based on the content and the beginning of each answer. The beginning of each answer included the target form in writing (enhanced for the enhanced groups and unenhanced for the control group) to model and to reinforce the target form usage (3PS for Experiment 1 and *will*-future for Experiment 2).

In Experiment 1, the treatment consisted of a 312-word passage which contained 35 items with the target form (3PS). The passage was followed by 16 *wh*-type questions based on the information in the text. The beginnings of the answers provided in writing contained a total of 16 lexical verbs with the 3PS.

In Experiment 2, the treatment consisted of a 329-word passage with 38 targeted linguistic items (20 full forms *will* and 18 contracted '*ll*). The passage was followed by 16 *wh*-type questions based on the content. The questions contained a total of 16 lexical verbs with full form *will* and the beginning of the answers which were provided in writing contained a total of 16 lexical verbs with the target form: 8 full forms *will* and 8 contracted forms '*ll*.

Textual enhancement was done by retyping the target items in a larger 16 point font (normal font was 14 point Arial) and by bold-facing or coloring them red. It should be noted that each enhanced experimental treatment contained only one kind of visual manipulation (either red-colored or bold-faced target forms) to avoid distraction and ambiguity. The targeted forms were enhanced within the body of each text, as in (14a) for Experiment 1 and (14b) for Experiment 2.

(14) a He park**s** his truck in a shady place, put**s** a heavy brown mailbag on his shoulder, and walk**s** around the neighborhood.

b Ernie **will** buy Jimmy a cup of coffee and he**’ll** tell him about his first day at the new job.

The targeted forms were also enhanced in the parts of the answers provided after the reading passage for Experiment 1, as in (15a) and both within the body of each question and each answer for Experiment 2, as in (15b).

(15) a Where does he go in the morning?

He goe**s** to ______________________________.

B Where **will** he park his truck tomorrow?

He'**ll** park ______________________________.

The Control group participants received the same treatment without any enhancement. Consequently, the only difference between the materials in the enhanced treatment and the control treatment was that those in the Enhanced groups contained enhancements intended to draw participant attention to the perceptually salient target structure while the Control group treatment contained no enhancement (see Appendix E for Experiment 1 treatment materials and Appendix F for Experiment 2 treatment materials).

The goals of the tasks, as conveyed to each participant at the beginning of the treatments were (1) to read and comprehend the text and (2) to demonstrate comprehension by answering questions orally and in writing. The Enhanced group participants were instructed to read the text orally and to answer the questions based on the content of the text while paying attention to the enlarged red or bold-faced words and/or letters. The Control group participants were instructed to read the text orally and to answer the questions based on the text. To create a stress-free environment, the task was not timed and the participants were allowed to consult the text while fulfilling the assignment. All respondents answered the questions orally and wrote down their answers.

3.5.5 Assessment Tasks

Subjects were tested three times during the study in order to evaluate and monitor their ability to notice and produce the target forms (English 3PS in Experiment 1 and *will*-future in Experiment 2): before the treatment, immediately after the treatment and three weeks later. In keeping with the conclusion of Norris & Ortega (2003) that a single measure will not provide sufficient evidence for “informing the range of interpretations” (p. 748) sought in a study like this one, each testing session consisted of four different measures (grammaticality judgment task, reading task, picture description task, and free response task), which together aimed at assessing (a) whether and to what extent textual enhancement would affect the subjects’ knowledge of the target structure and (b) whether and to what extent this knowledge would be acquired. The grammaticality judgment task (GJT) and the reading task (RT) aimed at measuring the subjects’ “noticing” of the target forms, while the picture description task (PDT) and the free response task (FRT) examined the acquisition of the target forms. To preserve the same testing conditions for each of the testing sessions, the post-test and delayed post-test used the same directions as those given in the pretest. In addition, the specific order in which the tasks were administered was the same for all testing sessions: (1) the GJT, (2) the RT, (3) the PDT, and (3) the FRT.

To enhance the construct validity of the measurement instruments, the following procedural safety measures were employed based on the suggestions made by different researchers (Birdsong, 1989; Chaudron, 1983, 2003; Luoma, 2004). First, equal numbers of grammatical and ungrammatical sentences were used in the grammaticality judgment task. Second, distractor sentences were included in both the reading task and the grammaticality judgment task to mask the target structures under investigation. Third, basic vocabulary was used in all testing instruments to make sure that the participants' performance was not influenced by unfamiliar lexical items. Last, all instructions were designed so that learners with limited active vocabulary and grammar would understand the task and be able to respond to it.

In addition, to avoid test effects and to provide highly controlled instruments by which to compare participants, two balanced assessment forms (A and B) of each task were designed specifically for this study and administered in two sequences: ABA or BAB (at pretest, post-test, and delayed post-test, respectively). Half of the participants in each experiment took the ABA sequence while the other half took the BAB sequence. The sections pertinent to each assessment task describe the differences between the two forms. Table 3.6 delineates subject distribution by groups and sequences.

Table 3.6 Participants Distribution by Groups & Sequences

	Experiment 1				Experiment 2				Total
	Enhanced 3PS		Control 3PS		Enhanced *will*		Control *will*		
	Sequence				Sequence				
	ABA	BAB	ABA	BAB	ABA	BAB	ABA	BAB	
N	9	9	9	9	10	8	9	9	72

No time limits were set for any of the tasks, a fact which created relaxed testing conditions and removed any bias associated with time pressure. Each session was audio-recorded and later transcribed and coded by the researcher. To ensure the reliability of the transcription, two native English speakers verified the transcripts.

The following section describes each of the four testing measures used in Experiment 1 and in Experiment 2 (see Appendix G for Experiment 1 assessment tasks and Appendix H for Experiment 2 assessment tasks).

3.5.5.1 The Grammaticality Judgment Task (GJT)

Grammaticality judgments of linguistic structures on both universal and language specific properties of grammar have been the most widely used measures in SLA research (Chaudron, 2003). Employed to assess L2 learners' metalinguistic awareness,[9] grammaticality judgments demonstrate learners' linguistic competence[10]. At the same time, judgments of grammaticality are not a direct reflection of L2 competence since, observes Chaudron (2003), "the basis for non-native judgments of grammaticality (or acceptability) lies not strictly in linguistic knowledge, but in varying degrees of application of other sources of intuitions and cognitive operations" (p. 806). In other words, grammaticality judgments also provide performance data since the assumption that a sentence is judged to be grammatical reflects L2 learner's Interlanguage, as Gass and Selinker (2001) point out.

According to Bialystok (1981), simple grammaticality judgment tasks, which invoke a judgment of acceptability or correctness, reflect information about implicit knowledge, that is, intuitive knowledge about the syntactic structures and rules, while additional tasks that require learners to make more detailed judgments (e.g., defining rules, identifying and correcting errors) reflect explicit, analyzed knowledge that represents consciously held insights about language.

The GJT implemented in the current study elicited both implicit and explicit knowledge of the target forms in that the participants were required not only to distinguish grammatical sentences from ungrammatical ones, but to locate the errors and correct them if they could. To judge the acceptability of the sentences, the participants were asked to read a number of unrelated sentences and put a mark in the space provided to identify grammatically correct (mark *Yes*) or incorrect (mark *No*) sentences, as in (16a) for Experiment 1 and (16b) for Experiment 2. If the sentence was judged unacceptable, the subjects were required to underline or circle the potential error to confirm that the subjects' grounds for rejection are justified. They were also asked to correct the error if they could. The following are examples from the task:

> Directions: *Read the following sentences. Check* ***Yes*** *if the sentence is grammatically correct. Check* ***No*** *if the sentence has a mistake. Circle or underline what you think is wrong in the sentence and correct it if you can. Do not mark anything if everything in the sentence is correct.*

(16) a **Yes** **No**

1. Ernie get into his mail truck every day. ___ ___
2. Every morning, Ernie wakes up at 6:00. ___ ___

b **Yes** **No**

1. Tomorrow, Ernie get into his mail truck. ___ ___
2. Ernie will wake up very early tomorrow. ___ ___

The GJT (Experiment 1 and Experiment 2) was a pen-and-paper test consisting of 16 declarative sentences with lexical verbs, 10 of which were taken from the treatment task—five were grammatically correct items while the other five contained an error in the target form. In order to minimize any priming effect due to the association of the target form with the experiment, the task contained six distractors, which consisted of three items with the copula (two incorrect and one correct) and three items with thematic verbs requiring the past tense inflection *–ed* (two correct and one incorrect). Table 3.7 demonstrates the distribution of verbs requiring the target features in the grammaticality judgment tasks of Experiment 1 (Version A & B) and Experiment 2 (Version A & B).

Table 3.7 Grammaticality Judgment Task: Distribution of Verbs with Target Features (3PS & *will*-future) by Version & Experiment

Experiment 1 (3PS)		Experiment 2 (*will*-future)	
Version A	Version B	Version A	Version B
deliver	delivers	deliver	'll deliver
drive	drives	drive	'll drive
gets	get	will get	get
goes	go	will go	go
puts	put	'll put	put
plays	play	say	will say
say	says	sort	will sort
sort	sorts	wake up	will wake up
wake	wakes	'll walk	walk
walks	walk	will play	play

As Gass (1983) claims, metalinguistic awareness, which comprises linguistic intuitions (including grammaticality judgments), has an important function for L2 learners, allowing them to self-correct and to compare their L1 and the TL which in turn is essential to an understanding of IL development. Consequently, the GJT employed in the current study targeted not only participants' "noticing" the target forms but also gaining insight into what they actually know about these forms and obtaining a representation of the participants' internal L2 grammar. However, as Bialystok (1981) claims, knowing a form does not guarantee that it will be used in "free situations" (p. 43). Therefore, the GJT was only one test among a battery of tests that the subjects had to take to provide information about their L2 knowledge and to allow the researcher to answer the research questions stated in Chapter 2.

3.5.5.2 The Reading Task (RT)

The second measure to assess learners' noticing the target forms was the oral reading task (RT). Reading aloud tasks have been implemented in SLA research to assess different levels of speech production but particularly phonological and lexical abilities (Chaudron, 2003). Oral reading is considered difficult, stressful, less efficient and less natural than silent reading and consequently not useful for testing comprehension (Birch, 2002; Chall, 1983). On the other hand, when beginning readers are forced to read silently, many of them encounter comprehension difficulties (Birch, 2002; Saenger, 1991). According to Saenger, oral reading plays a prominent role in facilitating the early adaptation of beginning readers to silent reading in that oralization aids these readers in the process of reconstructing words from their phonetic components. In addition, as claimed by Smith (2004), the beginning of the twentieth-century trend of placing oral reading long after silent is currently "in reverse" (p. 166). Consequently, the choice for the reading task was motivated by the fact that the participants of this study were beginning readers who preferred oral to silent reading and who did not consider oral reading unnatural. Given that oral reading requires more processing work, effort, and attention than other kinds of reading and because comprehension is viewed as a capacity robbing activity in cognitive psychology (Just & Carpenter, 1992) and in VanPatten's model of input processing (see Chapter 2), a reading comprehension variable was purposefully excluded from the study design. The purpose of the reading task was to determine whether or not the subjects could attend to and articulate the target form in oral reading. In other words, reading the target form aloud was considered explicit proof that the subjects noticed the target form.

The reading task measure consisted of participants' reading aloud a passage adopted from Vacco & Jablon's (2003) beginning-level adult ESL reading book. The original text was modified to increase the number of target items, to add distractors, and to keep the story cohesive and comprehensible. The text described a woman's (Version A) or a man's (Version B) pastimes. The text was first modified to fit the requirements of the 3PS usage (Experiment 1) and later converted into the future time reference for Experiment 2. Care was taken to use *will* for future reference only. For that reason and in order to keep the level of complexity balanced for the two experiments, the following two minor changes were implemented for Experiment 2: (1) one regular verb *like* was replaced by an irregular lexical *have* and (2) one extra irregular *be* was added (regular vs. irregular verbs usage was not an issue with *will*-future). As a result of these modifications, the reading task measure for Experiment 1 was a 289-word passage which contained 16 verbs with the target form (3PS) and 15 distractors that did not require the target form (third-person-plural verbs in the present simple tense). The reading task measure for Experiment 2 was a 274-word passage containing 17 target forms (including 9 verbs with the full form *will* and 8 verbs with the contracted form '*ll*) and 18 distractors (regular verbs in the past tense). The verbs containing the target feature were the same in both versions (A & B) for each of the two experiments. However, some other lexical items (nouns and adjectives) were replaced to avoid monotony, to keep the participants' interest in reading, and to preserve the lucidity and comparability of the two forms of the reading task. Table 3. 8 summarizes the target structures used in the Experiment 1 and Experiment 2 reading tasks.

Table 3.8 Reading Task: Distribution of Verbs with Target Features (3PS & *will*-future) by Version* & Experiment

Experiment 1 (3PS)		Experiment 2 (*will*-future)	
Version A/B		Version A/B	
1. arrives	10. plays	1. will arrive	10. will live
2. drinks	11. reads	2. will be	11. 'll play
3. eats	12. rents	3. 'll drink	12. will read
4. gets	13. spends	4. 'll eat	13. 'll rent
5. goes	14. swims	5. 'll get	14. will spend
6. hurries	15. takes	6. will go	15. will swim
7. likes	16. works	7. will have	16. 'll take
8. listens		8. will hurry	17. 'll work
9. lives		9. 'll listen	

*There was no difference between Versions A & B in the distribution of verbs with the target features

3.5.5.3 The Picture Description Task (PDT)

Since learners' mental grammars cannot be accessed directly, any observations made about the ways L2 learners construct mental grammars must be inferred from performance data (Chomsky, 1965; Hawkins, 2001). In addition to numerous studies using naturalistic observations, a number of techniques designed to elicit L2 learners' productive language performance have been implemented by researchers interested in specific L2 learning targets. These techniques have certain advantages over naturalistic observation in that, observes Chaudron (2003), “they can be tailored to specific points of L2 learning that are the theoretical focus of the research, especially certain communication tasks or picture descriptions that can be designed to promote specific productions” (p. 772). Chaudron further specifies other advantages of these techniques: they can be used with learners at any level of L2 competence, they can be more easily analyzed and scored, they can elicit more data with less concern for observational reliability by employing recording instruments, etc.

To measure the acquisition of the target forms, two of the elicited production procedures, PDT and FRT, were implemented in the current research. The participants were asked to produce target forms under regulated circumstances, where the use of the appropriate form (3PS in Experiment 1 and *will*-future in Experiment 2) was essential for grammatical accuracy to occur.

The picture description task used in the study was developed to provide a context for the oral production of the target forms (3PS in Experiment 1 and *will*-future in Experiment 2). The PDT was administered after the RT and consisted of a set of 10 thematically related pictures. A person in each picture (a female for Form A and a male for Form B) was involved in some sort of everyday activity. Each picture was labeled with a number and the oral elicitation procedure consisted of asking the participants to say what the person in the picture does every Sunday at particular time. Lexical temporal indicators (*Every Sunday* for Experiment 1 and *Tomorrow* for Experiment 2*)* were provided in writing and a picture of a clock displaying different time was positioned next to each picture. The decision to include lexical temporal indicators and a clock displaying time was made to create a general time frame and to focus the participants on the use of the required target form in each experiment.

3.5.5.4 The Free Response Task (FRT)

Upon completion of the PDT, each participant was asked a question targeted at eliciting a spontaneous response that would require the target form usage. In Experiment 1, the question was *What does your wife/husband do every Sunday?* (Version A) and *What does your wife/husband do every day?* (Version B). In Experiment 2, the questions were *What will you do tomorrow?* (Version A) and *What will you do next Sunday?* (Version B). This elicitation technique was targeted at eliciting a potentially more natural performance than the PDT with relatively few constraints within meaningful communication.

3.5.6 Summary of Verb Distribution in Treatment and Assessment Tasks

In Experiment 1, the testing instruments contained 36 verbs with the target form (including 10 possible choices in the PDT). The treatment contained 35 verbs with the target form (including 16 novel verbs). A total of 42 different lexical verbs with the 3PS were implemented in Experiment 1. To avoid the vowel insertion rule, neither the testing instruments nor the treatment materials included verbs ending in sibilant sounds. In addition, only regular verbs were selected for Experiment 1, since morphological structure was the major criterion in verb choice.

In Experiment 2, the testing instruments contained a total of 37 lexical verbs with the *will*-future (including 10 possible choices in the PDT). Of the ten verbs which required the target from in the GJT, four were used with the cliticized '*ll* (two in Form A and two in Form B). Of the 17 verbs which required the target from in the RT, nine were used with the full form *will* while eight were used with the cliticized '*ll*. The treatment contained a total of 38 verbs with *will*-future (including 18 novel verbs), 20 of them were used with the full target form (*will*) and 18 were used with the cliticized '*ll*. A total of 45 different lexical verbs, both regular and irregular, were used in Experiment 2 where morphological structure of verbs was not an issue.

The distribution of verbs requiring the target forms and used in three tasks (grammaticality judgment, reading, and picture description) and treatment are summarized for Experiment 1 and Experiment 2 in Tables 3.9 and 3.10 respectively.

Table 3.9 Experiment 1 (3PS): Verb Distribution by Tasks (Grammaticality Judgment, Reading, Picture Description) & Treatment

GJT	RT		PDT	Treatment Total verbs		
				Used in tasks		Novel
deliver	arrive	live	call	arrive	play	ask
drive	drink	play	drink tea/coffee	call	put	begin
get	eat	read	eat	deliver	read	buy
go	get	rent	get/wake up	drive	say	check
play	go	spend	go to church	drink	sort	come
put	hurry	swim	make tea/coffee	eat	spend	give
say	like	take	play	get	wake	help
sort	listen	work	read	go	walk	hug
wake			sleep	hurry	work	invite
walk			take a bath/shower	like		meet
						park
						return
						sit
						tell
						turn off
						wear

Table 3.10 Experiment 2 (*will*-future): Verb Distribution by Tasks (Grammaticality Judgment, Reading, Picture Description) & Treatment

GJT	RT		PDT	Treatment		
				Total verbs		
				Used in tasks		Novel
deliver	arrive	live	call	arrive	play	ask
drive	be	play	drink tea/coffee	be	put	begin
get	drink	read	eat	call	read	check
go	eat	rent	get/wake up	deliver	say	buy
play	get	spend	go to church	drive	sort	come
put	go	swim	make tea/coffee	drink	spend	do
say	have	take	play	eat	wake up	give
sort	hurry	work	read	get	walk	help
wake up	listen		sleep	go	work	hug
walk			take a bath/shower	have		invite
				hurry		like
						meet
						park
						return
						sit
						tell
						turn off
						wear

3.6 Materials Administration and Data Collection Procedures

The administration of materials assembled in individual packets, the place, nature, and procedures used in data collection, the scoring procedures, and the analysis of data follow.

3.6.1 Individual Packets

Six different sets of packages were assembled for this study. Each set of materials was placed in a large manila envelope. A total of 120 envelopes (20 for each set) were prepared. The materials in each envelope were: (1) two consent forms, (2) background questionnaire, (3) grammaticality judgment pretest, (4) reading pretest, (5) treatment reading passage with comprehension questions, (6) grammaticality judgment post-test, (7) reading post-test, (8) grammaticality judgment delayed post-test, (9) reading delayed post-test. Those packets that contained Version A pretest had Version B post-test and Version A delayed post-test. Similarly, Version B pretest packages contained Version A post-test and Version B delayed post-test. Consequently, each envelope had one of the following marks: RED 3PS ABA, RED 3PS BAB, BOLD 3PS ABA, BOLD 3PS BAB, CONTROL 3PS ABA, CONTROL 3PS BAB, RED *WILL* ABA, RED *WILL BAB*, BOLD *WILL* ABA, BOLD *WILL BAB*, CONTROL *WILL* ABA, CONTROL *WILL BAB.* Each participant received a randomly selected package. The coded name (participants' initials) and the date of each session were written on the envelope.

3.6.2 Data Collection

All data were collected in New Orleans, LA in the summer of 2005 (May 10 – August 27). The data collection sessions took place at the ESL site of Catholic Charities Archdiocese of New Orleans Immigration and Refugee Services (1101 Barataria Ave., Marrero, LA) and at the participants' homes. Each participant met with the researcher twice during the data collection period. The time for each of the two sessions was arranged with each participant over the phone or in person. All sessions were carried out individually and no time constraints were set on any tasks, a fact which allowed each participant to work at his/her own pace and to avoid stress. However, the participants were informed beforehand through recruitment advertisements the researcher distributed that the two sessions would last not more than two hours. Each session was audio-recorded with a digital voice recorder DS-330. For the duration of each session, the noise level was minimal and did not interfere with the participants' ability to concentrate. During the transcription of the data, no information was obscured due to any acoustic interference.

3.6.3 Description of Procedure

At the first session of the study, the researcher randomly picked a manila envelope that contained all the materials, noted down the participant's initials, the date and time on the envelope. Before passing out any materials, the researcher explained the packet's content and what would be required if the participant chose to take part in the study. Each participant was given an opportunity to ask any questions that he/she might have had and was assured that the participation was voluntary and confidential and that the recordings would be used for research purposes only.

The researcher then provided the participant with the particular materials as needed. First, the participant received the two consent forms. Upon reading and signing the consent forms, he/she received the 15-item background biographical questionnaire designed specifically for this study to gather information about the subjects' gender, age, education level, and years of exposure to English. Each participant read out loud each question and wrote down the answers. Once the participant had filled out the questionnaire, he/she proceeded to the testing session.

The pretest, treatment, and immediate post-test were administered in a single session lasting approximately one hour and 30 minutes. Each participant returned three weeks later to complete the delayed post-test. Each testing session was administered in the same order: (1) grammaticality judgment task (GJT); (2) reading task (RT); (3) picture description task (PDT); (4) free conversation task (FCT). The pretest session was followed by the experimental treatment. The subjects read the treatment passage out loud and answered the comprehension questions that followed the reading passage orally and in writing. The subjects in the enhanced groups were asked to pay attention to the letters enhanced in the treatment materials. The subjects in the control groups were asked to read the text and answer the questions without any specific instruction to pay attention to forms. The subjects were allowed to consult the text as they answered the questions orally and wrote down the answers.

All written assignments were placed into the manila envelope upon completion of each task. Figure 3.3 visually summarizes the experimental schedule followed in this study. Since each procedure was administered individually and no time limit was set for any of the tasks, the time reported in Figure 3.3 is averaged.

DAY ONE	
Directions	5 min.
Consent Forms	10 min.
Questionnaire	10 min.
Pretest:	
Grammaticality Judgment Task	10 min.
Reading Task	5 min.
Picture Description Task	5 min.
Free Conversation Task	5 min.
Treatment:	
Reading Task	10 min.
Questions	15 min.
Post-test:	
Grammaticality Judgment Task	10 min.
Reading Task	5 min.
Picture Description Task	5 min
Free Conversation Task	5 min.
Day One Total Time	1 hour 40 minutes
DAY TWO	
Delayed Post-test:	
Grammaticality Judgment Task	10 min.
Reading Task	5 min.
Picture Description Task	5 min.
Free Conversation Task	5 min.
Day Two Total Time	25 min.

Figure 3.3 Summary of Experimental Schedule for Each Participant

3.6.4 Scoring Procedures

The critical step between the actual data collection and the analysis of these data was the coding of the oral data into measurable units. Each task had a separate coding procedure.

For the GJT, one point was given for each correct answer and zero points for each incorrect answer for a possible total of 10 points (the task consisted of 10 sentences with the target form, not considering the distractors). That is, if a sentence was correct and was judged so by the subjects, it received one point, and if an ungrammatical sentence was deemed correct, it received no points. In addition, if an ungrammatical sentence was marked incorrect, one point was awarded only when the incorrect target item was circled or underlined. If an ungrammatical sentence was marked as incorrect, but an item other than the target form was identified, the sentence received zero points since this choice would suggest that the subject was basing his/her decision on some criterion other than the target form. Only the target structure items were scored. The same GJT scoring procedure was implemented for Experiment 1 and Experiment 2.

For the Reading Task, the participants received one point each time they pronounced 3PS in Experiment 1 and two points for each time they pronounced *will/'ll* in Experiment 2. When the target features were not pronounced in oral reading, the subjects received zero points. For Experiment 1, a possible total of 16 points was available for this task since a total of 16 verbs with 3PS were imbedded in the reading passage. For Experiment 2, the scores ranged between 0 and 34 since a total number of the target items was 17**.**

For the PDT, each participant’s scores were computed by tallying the number of the target form use. Subjects earned 2 points for each verb that contained the target feature (3PS in Experiment 1 and *will*-future for Experiment 2), zero points when no target form was supplied, and 1 point for those malformed[11] constructions that were ungrammatical in non-target ways: for Experiment 1, when the target feature was oversupplied (e.g., *he*'s *reads*, *she*'s *plays*, *she*'s *goes*), and for Experiment 2, in case of double markings, when the target form was supplied but the verb was not in its root form (e.g., *she will woke up; he*'*ll taken; she will readin*'*)*. A possible total of 20 points was available for this task since there were 10 pictures that required a verb with the target form in each Experiment.

For the FRT, the concept of suppliance in obligatory contexts (SOC) was implemented to compute the use of the target features by each participant. This concept was introduced by Brown (1973) for L1 order of acquisition, expanded by Dulay and Burt (1974), and later replicated by other researchers (e.g., Pica, 1983). Since most of the “natural order” studies relied on SOC scoring procedure to determine accurate use of morphemes in linguistic contexts in which these morphemes are required (Goldschneider & DeKeyser, 2001), the current study followed this methodology in scoring the Free Response Task. For Experiment 1, the original formula for Supplied in Obligatory Contexts Analysis was applied[12]. The formula is given in Figure 3.4.

$$\text{SOC} = \frac{\text{correct suppliance } n \times 2 + \text{oversuppliance } n \times 1}{\text{total obligatory contexts} \times 2}$$

Figure 3.4 Formula for Supplied in Obligatory Contexts Analysis of Morphemes for Experiment 1 (adapted from Pica, 1983, p. 70)

In order to determine obligatory contexts, each participant’s narration on the free response task was organized into idea units.[13] Idea units have been implemented in SLA research (Lee, 1986; VanPatten, 1990; Wong, 2001, among others) to assess unplanned speech which in contrast to planned speech is often characterized by incomplete sentences and short idea units (Luoma, 2004). Given that the target of this research is verbal morphology, each idea unit corresponded to basic semantic proposition that required a finite verb. Each idea unit was then evaluated for the obligatory context (whether or not the target form was required). Finally, the number of obligatory contexts, the number of correct suppliance of the target form, and the number of oversupplied (Experiment 1) and double marked (Experiment 2) target features were counted in obligatory contexts and entered into the formula to calculate the total score for each participant. A sample of one of the participants’ narration and the way it was scored is demonstrated below in Example 3.1.

Example 3.1 Sample narration for Experiment 1 in response to the question
What does your husband do every Sunday?

(1) Mah husban' go to churt ‖
(2) Ah: |never work on Sunday ‖
(3) Mah husban' have dis churt in de Algiers ‖
(4) He::: ah twen'y |twen'y-two |twen'y-four years here ‖
(5) Da's Haitian churt ‖
(6) Das's a big churt ‖
(7) Every time mah husban' talk to |dis lady |Spanish ‖
(8) but ah::: is ahhh anoder churt ‖

This sample contains eight idea units with seven obligatory contexts for 3PS use (1), (2), (3), (5), (6), (7), and (8). Three target forms are supplied in (5), (6), (8)[14]. Consequently, the SOC score for this participant is calculated as follows:

Obligatory contexts: 7
Correct suppliance: 3
Oversuppliance: 0

$$\text{SOC} = \frac{(1 + 1 + 1) \times 2}{7 \times 2} = \frac{6}{14} = 0.43$$

For Experiment 2, the original formula was modified in order to take into account an appropriate usage of alternative forms possible in obligatory contexts for future time reference. As mentioned in section 3.3.3, there are several possible ways of expressing future time reference and *will*-future is only one of them. Consequently, it was decided that if the subjects used other forms to express future time reference, they should be credited for an appropriate alternative form even though it was not the target form *will/'ll*. Figure 3.5 gives the modified formula used to calculate the score for Experiment 2.

$$\text{SOC} = \frac{\text{correct suppliance } n \times 2 + \text{alternative form } n \times 1 + \text{double marking } n \times 1}{\text{total obligatory contexts} \times 2}$$

Figure 3.5 Formula for Supplied in Obligatory Contexts Analysis of Morphemes for Experiment 2 (adapted from Pica, 1983, p. 70)

Thus, for Experiment 2, each participant's narration was organized into idea units and each idea unit was then evaluated for the obligatory context. Then, the number of obligatory contexts, the number of correct suppliance of the target form, the number of appropriate instances of viable alternative forms, and the number of double markings were counted in obligatory contexts and entered into the formula to calculate the total score for each participant. Example 3.2 demonstrates this scoring procedure.

Example 3.2 Sample narration from Experiment 2 in response to the question *What will you do tomorrow?*

(1) Oh |tomorrow |I wen' to de churt for twelve ‖
(2) It's Friday ‖
(3) Sometimes I go every day
(4) but I miss ‖
(5) But Fridays |I never really miss Fridays ‖
(6) I go to work in de evenin' ‖
(7) I work tomorrow until Monday ‖
(8) I'll be off Monday ‖

This sample contains eight idea units with five obligatory contexts for future time reference (1), (2), (6), (7), and (8) with one target form supplied in (8) and a possible usage of the present tense with future reference in (2). Consequently, the SOC for this participant was calculated as follows:

Obligatory context: 5
Correct suppliance: 1
Alternative form: 1
Double marking: 0

$$\text{SOC} = \frac{(1 \times 2) + (1)}{5 \times 2} = \frac{3}{10} = 0.3$$

All taped oral tasks utterances were transcribed using a mild version of eye-dialect to facilitate the transcription of a large amount of oral data and to reflect the participants’ non-standard pronunciation. The decision not to implement IPA style was made early in the study since IPA is time consuming and does not serve the purpose of the current study. Prosodic cues, such as pauses and intonation were included in the transcription. All transcripts were hand-written and then typed into a word processing program (See Appendices I & J for samples of Experiment 2 PDT & FRT responses and scoring and Appendices K & L for samples of Experiment 2 PDT & FRT responses and scoring).

3.6.5 Analyses

After termination of the treatment and testing periods, the data were statistically analyzed using a series of analyses of variance (ANOVA) with repeated measures design. The primary objective was to find out whether there were differences between the means of the Enhanced group and the means of the Control group in each of the two experiments (Experiment 1 with 3PS and Experiment 2 with *will*-future) for each of the four tasks (GJT, RT, PDT, & FRT). For each of the four tasks, the score differences between the pretest and the post-test were used to establish the immediate effect of treatment; the score differences between the post-test and the delayed post-test and between the pretest and the delayed post-test were used to establish the long-term effect of treatment on participants' noticing and acquiring the target forms in Experiment 1 and Experiment 2. The alpha decision to reject the null hypothesis was set *a priori* at $p < .05$ in all statistical analyses. The results of these data analyses are presented in the following chapter.

Notes for Chapter 3

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1 The results of the pilot study were presented at the 2005 AILA conference held in Madison, Wisconsin.

2 The researcher was the program Education Coordinator and ESL Literacy teacher during the pilot study and at the time of the main research project.

3 According to Bardovi-Harlig (2004b), in early L2 grammars, learners begin to use *will* in order to distinguish future from past and present contexts (for temporal reference) and modality is mapped much later.

4 According to Bardovi-Harlig (1997, 2000), the target language exerts a much greater influence on the acquisition of verbal morphology than learners' L1.

5 According to DeGraff (2001), Haitian Creole has some instances of inflectional morphology.

6 Even though Goldschneider & DeKeyser (2001) provided a definition for the acoustic salience of inflectional morphemes, according to VanPatten, Williams, & Rott (2004), "the same principles may be applied more broadly" (p. 17) [e.g., to free grammatical morphemes].

7 Auxiliaries are functional counterparts of verbs. They are functors in that (unlike lexical verbs) they describe no specific action or event, but rather encode verb-related grammatical properties such as tense, mood, voice, and aspect.

8 In the current research, acquisition is defined in terms of accuracy of the target forms suppliance in obligatory contexts. The criterion was set at 90% accuracy, following Brown (1973) for L1 and Dulay & Burt (1974) for L2.

9 Metalinguistic awareness is "the ability to think about and reflect upon the nature and functions of language" (Baker, 1993, p. 122).

10 Linguistic competence is "linguistic knowledge underlying learners' language performance that is not necessarily available for conscious report" (Mandell, 1999, p. 75).

11 Learners' errors are no longer seen as deviations to be eliminated but can be used as data for analysis since they provide important information about their IL development (Corder, 1967).

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12 For Experiment 1, the word *misformation* used in the original formula was replaced by the word *oversuppliance* to better reflect the content of the misformations the participants were credited for.

13 Idea units are grammatically simple strings of short phrases and/or clauses. Idea units can be VPs, NPs, or PPs and some do not contain verbs (Luoma, 2004).

14 Even though 3PS copula was used neither in the treatment nor in the instruments, all three propositions demonstrate that the [-interpretable] φ-features (3 person, sing. number) and the case-assigning feature of *is* were checked and deleted before the derivation arrived at LF.

CHAPTER 4

RESULTS AND ANALYSES

4.0 Introduction

This chapter presents the results of the two experiments conducted within a focus-on-form framework to investigate the effects of textual enhancement on English L2 learners' noticing and acquisition of two verbal features, namely 3PS and *will*-future. All analyses and results are organized around the study's four hypotheses. The addressed hypotheses are briefly summarized here:

Hypothesis A Learners who receive enhanced input of 3PS will demonstrate a more accurate ability to notice and produce this target feature than learners who receive unenhanced input.

Hypothesis B Learners who receive enhanced input of *will*-future, will demonstrate a more accurate ability to notice and produce this target feature than learners who receive unenhanced input.

Hypothesis C The effect of text enhancement will hold over a long period of time (three weeks after the treatment).

Hypothesis D Learners who receive enhanced input of *will*-future, will demonstrate a more accurate ability to notice and produce the target feature than learners who receive enhanced input of 3PS.

Hypothesis A will be addressed through a description of the subjects' accuracy on each of the four assessment tasks: grammaticality judgment task (GJT), reading task

(RT), picture description task (PDT), and free response task (FRT) of Experiment 1 (3PS). Hypothesis B will be addressed through the subjects' accuracy on each of the four assessment tasks (GJT, RT, PDT, and FRT) of Experiment 2 (*will*-future). Hypothesis C will be addressed through the results of each assessment task of Experiment 1 and Experiment 2 at delayed post-tests. Hypothesis D will be addressed through the results of Experiment 1 and Experiment 2.

4.1 Analyses for Hypothesis A

Hypothesis A predicted that subjects who received textually enhanced treatment would demonstrate a more accurate ability to notice and use the target feature 3PS than would subjects in the control group. Since the assessment device consisted of more than one task, evidence for this hypothesis will be discussed by examining the subjects' performance on each task separately.

4.1.1 Results of 3PS Pretest

Initially, factorial analyses of variance (ANOVA) with repeated measures were performed on each pretest of the four assessment tasks to determine whether there were any differences in the abilities of the two groups (Enhanced 3PS & Control 3PS) to notice and use 3PS prior to the treatment. Table 4.1 presents the descriptive statistics (Means & Standard Deviations) of the pretest scores for each group on each task. Table 4.2 summarizes the results of the ANOVAs.

Table 4.1 Descriptive Statistics of GJT, RT, PDT, & FRT Scores at 3PS Pretest

Task	Group					
	Enhanced 3PS			Control 3PS		
	N	M	SD	N	M	SD
GJT	18	.50	.50	18	.489	.50
RT	18	.035	.183	18	.021	.143
PDT	18	0	0	18	.017	.166
FRT	18	.025	.073	18	.008	.033

Table 4.2 Results of ANOVAs on 3PS Pretest Scores for GJT, RT, PDT, & FRT

Task	Source of Variation	SS	df	MS	F	*p*
GJT	Between groups	.011	1	.011	.04	.834
	Error	89.98	358	.251		
RT	Between groups	.028	1	.028	1.03	.312
	Error	15.53	574	.027		
PDT	Between groups	.025	1	.025	1.81	.179
	Error	4.95	358	.014		
FRT	Between groups	.003	1	.003	.812	.374
	Error	.11	34	.003		

The results from these tables reveal no statistically significant difference between the groups on any pretest task. Thus, it can be said that the participants in both groups were similar at the outset of the experiment and that any statistically significant post-test difference found between the groups on any task is not related to the participants' prior knowledge of the target feature and is attributed to the experimental treatment. In addition, it should be noted that the two versions (A & B) created for each of the three tasks (GJT, RT, & PDT) were counterbalanced, as the fact that there were no differences in the scores between the two versions on each task confirms.

4.1.2 Results of 3PS Noticing

This section presents the results of the data for noticing 3PS as measured by the grammaticality judgment task and reading task at pretest, post-test, and delayed post-test.

4.1.2.1 The Grammaticality Judgment Task

Table 4.3 summarizes and Figure 4.1 graphically displays descriptive statistics (Means & Standard Deviations) of the 3PS grammaticality judgment task (GJT) at pretest, post-test, and delayed post-test.

Table 4.3 Descriptive Statistics of 3PS GJT Scores at Pretest, Post-test, & Delayed Post-test by Groups

	Pretest	Post-test	Delayed Post-test
Enhanced 3PS			
N	18	18	18
M	.50	.49	.55
SD	.50	.50	.50
Control 3PS			
N	18	18	18
M	.49	.50	.54
SD	.50	.50	.50

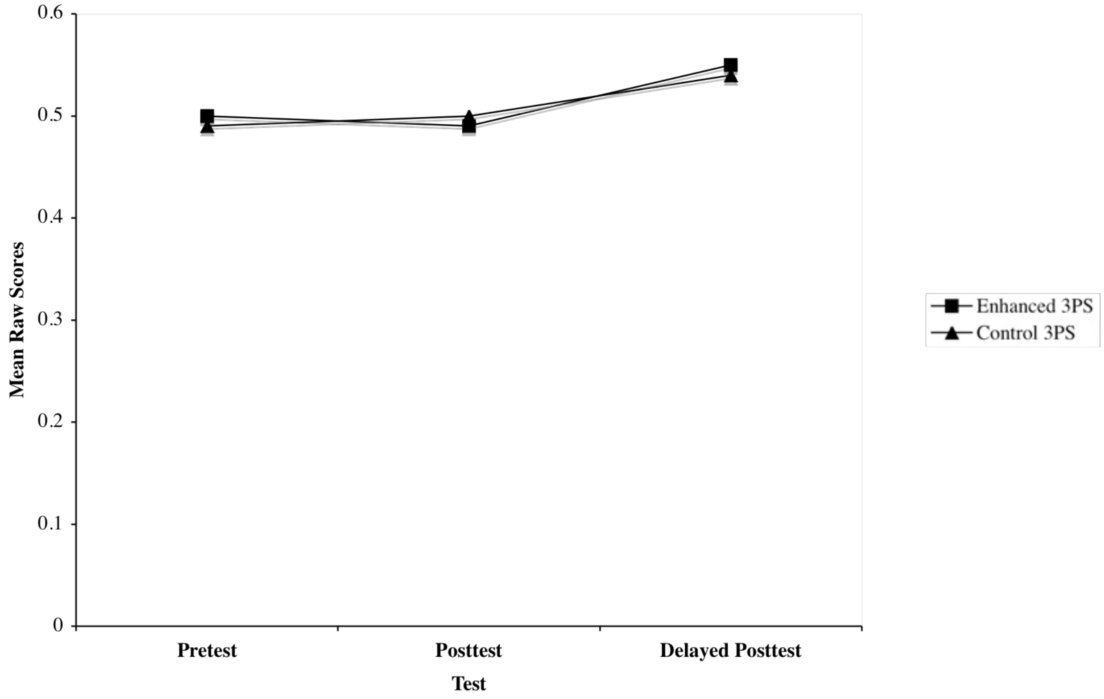

Figure 4.1 Mean Scores for the 3PS Grammaticality Judgment Task

The overall test results displayed in Table 4.3 and Figure 4.1 reveal minor differences between the pretest and both the immediate and delayed post-tests for the two groups. In order to determine if these differences were statistically significant, each group's raw scores were submitted to factorial analyses of variance with repeated measures design. Results of the ANOVAs are given in Table 4.4.

Table 4.4 Results of the Repeated-measure ANOVAs Comparing Scores on the 3PS GJT at Pretest, Post-test, & Delayed Post-test by Groups

Group	Source of variation	SS	df	MS	F	*p*
Enhanced 3PS	Between	.38	2	.19	.76	.47
	Error	134.53	537	.25		
Control 3PS	Between	.31	2	.16	.62	.54
	Error	134.62	537	.25		

The results of the ANOVAs, as summarized in Table 4.4, reveal no overall statistically significant differences for either group ($F_{2, 537} < 1$). In addition, no significant difference was found between the Enhanced and Control groups either at post-test ($F_{1, 358} = .04$, $p = .834$) or at delayed post-test ($F_{1, 358} = .01$, $p = .915$). Thus, it can be said that both groups had equivalent performances on the GJT. The fact that no significant main effects were found on the GJT suggests that the textually enhanced treatment did not affect the participants' noticing 3PS as measured by this task and was therefore ineffective in improving their metalinguistic knowledge of the target form. In other words, analyses of the subjects' raw scores on the GJT do not support Hypothesis A, which predicted that the Enhanced group would outperform the Control group with respect to the accuracy of their responses on the grammaticality judgment task.

4.1.2.2 The Reading Task

Table 4.5 summarizes and Figure 4.2 graphically displays descriptive statistics (Means & Standard Deviations) of the reading task (RT) at pretest, post-test, and delayed post-test. Results of the ANOVAs are given in Table 4.6.

Table 4.5 Descriptive Statistics of 3PS Reading Task Scores at Pretest, Post-test, & Delayed Post-test by Groups

	Pretest	Post-test	Delayed Post-test
Enhanced 3PS			
N	18	18	18
M	.035	.739	.486
SD	.183	.439	.501
Control 3PS			
N	18	18	18
M	.021	.024	.021
SD	.143	.154	.143

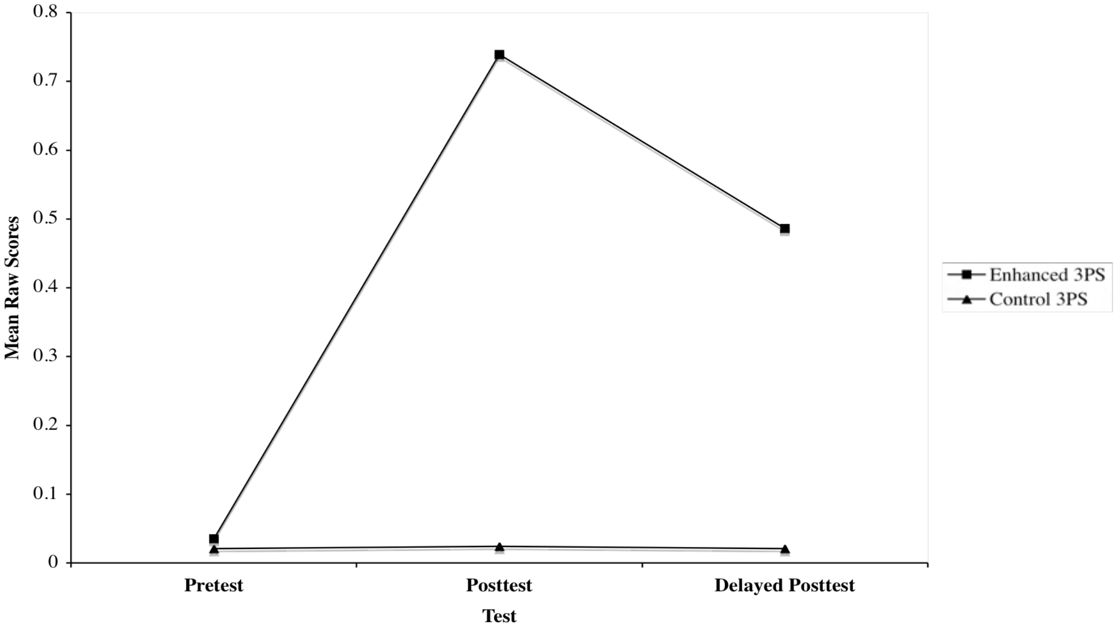

Figure 4.2 Mean Scores for the 3PS Reading Task

Table 4.6 Results of the Repeated-measure ANOVA comparing scores on the 3PS Reading Task at Pretest, Post-test, & Delayed Post-test

Group	Source of variation	SS	df	MS	F	*p*
Enhanced 3PS	Between	73.42	2	36.7	230.60	.0001
	Error	137.7	861	.16		
Control 3PS	Between	.002	2	.001	.056	.95
	Error	18.58	861	.022		

What follows from the presented data is that there is no statistically significant overall difference for the Control 3PS group (*p* = .95). At the same time, there is a statistically significant overall difference for the Enhanced 3PS group (*p* = .0001). In order to determine the source of this difference, post-hoc analyses were conducted using Fisher's least-significant difference (LSD) test. These analyses revealed statistically significant differences between the means of the pretest and post-test ($F_{1, 574} = 630$, $p < .0001$) and pretest and delayed post-test ($F_{1, 574} = 206$, $p < .0001$) for the Enhanced 3PS group. Statistically significant differences were also found between the Enhanced 3PS and Control 3PS groups on post-test ($F_{1, 574} = 679.02$, $p < .0001$) and delayed post-test ($F_{1, 574} = 229.89$, $p < .0001$) means. In other words, subjects who had received textually enhanced treatment demonstrated ability to notice more accurately the target feature 3PS than subjects who had received unenhanced treatment. Unfortunately, this effect decreased at delayed post-test three weeks following the completion of the treatment, as evidenced from the comparison of the Enhanced 3PS post-test and delayed post-test means ($F_{1, 574} = 41.67$, $p = .0001$). Nevertheless, despite the decline of the acquired knowledge, the difference between the pretest and delayed post-test was still statistically significant.

In sum, the results of the analyses of the participants' raw scores on the reading task reveal a significant main effect for text enhancement and support Hypothesis A, which predicted that the Enhanced group would outperform the Control group with respect to the "noticing" of the target form as measured by the reading task.

4.1.3 Acquisition Results of 3PS

This section presents the results of the data for the acquisition of 3PS as measured by the two oral production tasks, the picture description task and the free response task, at pretest, post-test, and delayed post-test.

4.1.3.1 The Picture Description Task

Descriptive statistics (Means & Standard Deviations) of the picture description task (PDT) at pretest, post-test, and delayed post-test are summarized in Table 4.7 and graphically displayed in Figure 4.3.

Table 4.7 Descriptive Statistics of 3PS PDT at Pretest, Post-test, & Delayed Post-test by Groups

	Pretest	Post-test	Delayed Post-test
Enhanced 3PS			
N	18	18	18
M	0	.167	.05
SD	0	.467	.265
Control 3PS			
N	18	18	18
M	.017	0	0

SD	.166	0	0

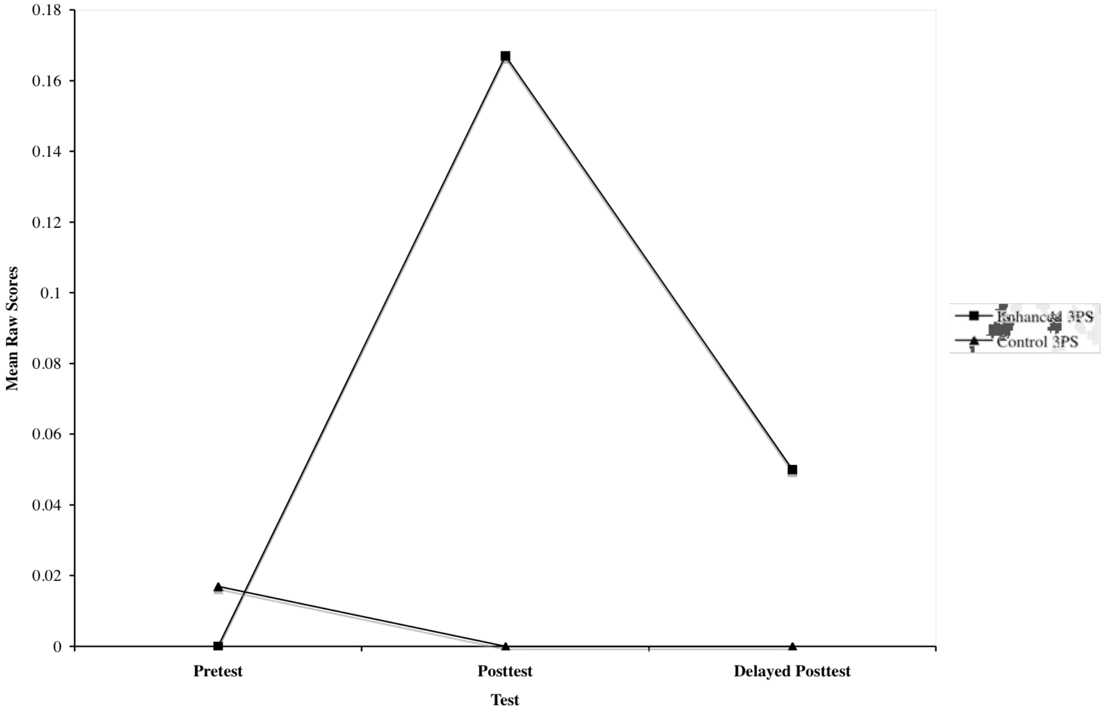

Figure 4.3 Mean Scores for the 3PS Picture Description Task

Even though the Control 3PS group mean scores seem to be slightly lower on the post-test and delayed post-test than on the pretest, there was no variance in these scores. At the same time, Table 4.7 and Figure 4.3 demonstrate some variance for the Enhanced 3PS group mean scores. The results of the ANOVA confirm this variance and reveal an overall significant main effect for time for the Enhanced 3PS group ($F_{2, 537} = 13.73$, $p < .0001$). Further analyses demonstrated a statistically significant difference between the pretest and post-test ($F_{1, 358} = 22.957$, $p = .0001$) and pretest and delayed post-test scores ($F_{1, 358} = 6.4$, $p = .012$) for the Enhanced 3PS group. In addition, statistically significant differences were found between the two groups on post-test ($F_{1, 358} = 22.96$, $p < .0001$)

and on delayed post-test ($F_{1, 358} = 6.4$, $p = .012$) scores. In other words, subjects who received textually enhanced treatment demonstrated an ability to produce the target feature 3PS more accurately than did subjects in the Control group. Unfortunately, this effect decreased at delayed post-test three weeks following the completion of the treatment, as evidenced by a comparison of the Enhanced 3PS post-test and delayed post-test means ($F_{1, 358} = 8.5$, $p = .004$). Nevertheless, despite the decline of the acquired knowledge, the difference between the pretest and delayed post-test was still statistically significant.

In sum, the results of the analyses of the participants' raw scores on the picture description task demonstrate that textually enhanced treatment was effective in improving participants' acquisition of 3PS as measured by the PDT and support Hypothesis A which predicted that the Enhanced group would outperform the Control group with respect to the acquisition of the target form.

4.1.3.2 The Free Response Task

Descriptive statistics (Means & Standard Deviations) of the free response task at pretest, post-test, and delayed post-test are summarized in Table 4.8 and graphically displayed in Figure 4.4.

Table 4.8 Descriptive Statistics of 3PS Free Response Task at Pretest, Post-test, & Delayed Post-test by Groups

	Pretest	Post-test	Delayed Post-test
Enhanced 3PS			
N	18	18	18
M	.025	.102	.029
SD	.073	.124	.045
Control 3PS			
N	18	18	18
M	.008	.011	.023
SD	.033	.034	.051

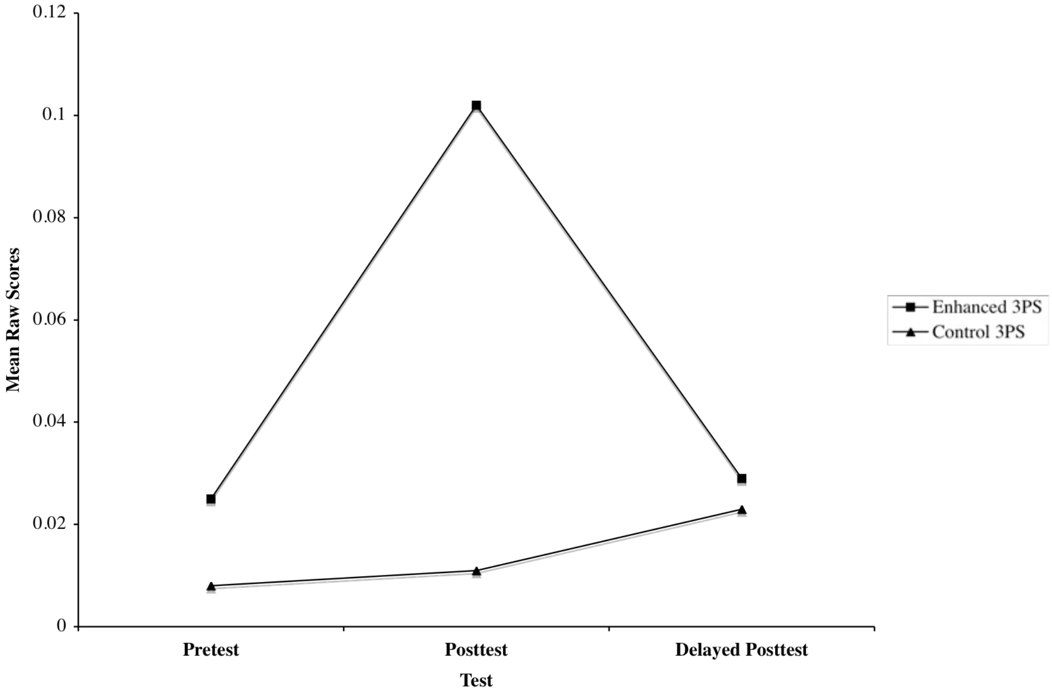

Figure 4.4 Mean Scores for the 3PS Free Response Task

The overall test results displayed in Table 4.8 and Figure 4.4 reveal some differences between the pretest and both the immediate and delayed post-tests for the two groups. In order to determine if the overall differences were statistically significant, each group's raw scores were submitted to factorial analyses of variance with repeated measures design. Results of the ANOVAs are given in Table 4.9.

Table 4.9 ANOVAs of 3PS FRT at Pretest, Post-test, & Delayed Post-test by Groups

Group	Source	SS	df	MS	F	*p*
Enhanced 3PS	Between	.068	2	.034	4.47	.02
	Error	.388	51	.008		
Control 3PS	Between	.002	2	.001	.65	.53
	Error	.086	51	.002		

Repeated-measure ANOVAs demonstrated no statistically significant differences for the Control 3PS group ($F_{2, 51}$ = .65, *p* = .53). A statistically significant overall difference was found for the Enhanced 3PS group ($F_{2, 51}$ = 4.47, *p* = .02). The source of this variation was a statistically significant difference between the Enhanced 3PS pretest and post-test ($F_{1, 34}$ = 5, *p* = .03) and post-test and delayed post-test scores ($F_{1, 34}$ = 5.6, *p* = .024). There was no difference between the Enhanced 3PS pretest and delayed post-test scores ($F_{1, 34}$ = .05, *p* = .82). In addition, even though a statistically significant difference was found between the Enhanced 3PS and Control 3PS groups on post-test ($F_{1, 34}$ = 8.6, *p* = .006) there was no difference between the two groups on the delayed post-test scores

($F_{1, 34}$ = .125, p = .726). In other words, the FRT results revealed that the mean scores were not different from the time of the pretest to the time of the delayed post-test regardless of the treatment the participants received.

In sum, the results of the analyses of the participants' raw scores on the free response task demonstrate that textually enhanced treatment is ineffective in improving participants' acquisition of 3PS as measured by the FRT and does not support Hypothesis A, which predicted that the Enhanced group would outperform the Control group with respect to the oral production of the target form.

4.1.4 Summary of Evidence for Hypothesis A

Hypothesis A predicted that subjects who received textually enhanced treatment would demonstrate an ability to notice and use more accurately the target feature 3PS than would subjects in the control group. Analyses of the subjects' performance on the two tasks that measured noticing provided mixed results. While the two groups did not differ on the grammaticality judgment task and thus demonstrated that text enhancement was ineffective in improving the participants' metalinguistic knowledge of the target feature, the Enhanced group outperformed the Control group on the reading task and therefore demonstrated that text enhancement was effective in focusing learner attention on the target form and in allowing learners to notice and articulate the form while reading. Thus, the results were in line with those of other researchers (Leeman, 2003; Sharwood Smith, 1991): Even though the Enhanced group participants were successfully led to notice 3PS while reading aloud a passage, they stopped short of changing their metaliguistic knowledge of the target feature despite the enhanced input, which remained nonsalient to their learning mechanisms. In other words, the current study participants did not notice the target form meta-linguistically as evident from their lack of improvement on the GJT scores but they did notice it perceptually as evident from their improvement on the RT scores.

Analyses of the subjects' performance on the two tasks that measured acquisition also provided mixed results. While the Enhanced 3PS group outperformed the Control 3PS group on the PDT and thus demonstrated that text enhancement was effective in allowing the participants to use 3PS while orally describing pictures, the two groups did not differ on the FRT and thus demonstrated that textual enhancement was ineffective in assisting the learners to use the target feature in free speech. In spite of some progress between the pretest and post-test, the Enhanced 3PS group failed to distinguish themselves from the Control 3PS group on the FRT delayed post-test. In other words, the Enhanced group demonstrated a more accurate ability to produce the target feature in a controlled context as evident from the PDT results but failed to demonstrate any improvement on the production of the target feature during less constrained meaningful communication as evident from the FRT results. The results of the four tasks that provided evidence for Hypothesis A are summarized in Table 4.10.

Table 4.10 Evidence for Hypothesis A

Enhanced 3PS vs. Control 3PS

Test time	GJT	RT	PDT	FRT	
Pretest	H0	H0	H0	H0	H0: groups have equal knowledge ($M_E = M_C$) against H1: knowledge is different ($M_E \neq M_C$)
Post-test	H0	H1	H1	H1	H0: groups have equal knowledge ($M_E = M_C$) against H1: knowledge is different ($M_E \neq M_C$)
Delayed Post-test	H0	H1	H1	H0	H0: groups have equal knowledge ($M_E = M_C$) against H1: knowledge is different ($M_E \neq M_C$)

Enhanced 3PS

Test period	GJT	RT	PDT	FRT	
Pretest — Post-test	H0	H1	H1	H1	H0: treatment does not work ($M_P = M_0$) against H1: treatment works ($M_P > M_0$)
Post-test — Delayed Post-test	H0	H1	H1	H1	H0: knowledge did not change ($M_D = M_P$) against H1: knowledge decreased ($M_D < M_P$)
Pretest — Delayed Post-test	H0	H1	H1	H0	H0: treatment does not work after 3 weeks ($M_D = M_0$) against H1: treatment works ($M_D > M_0$)

Significance level for hypothesis is .05 (5%)

H0 = Null Hypothesis
M_E= Enhanced group Mean
M_0 = Pretest Mean
M_D = Delayed Post-test Mean
H1 = Research Hypothesis
M_C = Control Group Mean
M_P = Post-test Mean

As evident from Table 4.10, statistical analyses do not provide a definite answer to the first research question of whether text enhancement can facilitate noticing and subsequent acquisition of 3PS since the GJT and FRT results demonstrated nonsignificant main effects for time and instruction while the RT and PDT results demonstrated significant main effects for time and instruction. Thus, it can be concluded from the Experiment 1 results that Hypothesis A is partially supported, that is, supported only in terms of the results of the reading and picture description tasks. The methodology used to determine the degree of congruence between the two methods of measuring "noticing" was to compare the GJT and RT scores, while the methodology used to determine the degree of congruence between the two methods of measuring acquisition was to compare the PDT and FRT scores. In addition, since Hypotheses A predicted that the participants would demonstrate better "noticing" and subsequent acquisition of 3PS, it seemed relevant to test for the relationship between noticing and acquisition.

To test for these relationships, correlational analyses were carried out using Pearson product-moment correlation on the grammaticality judgment and reading tasks post-test scores being used as measures of noticing and on the picture description and free response tasks post-test scores being used as measures of acquisition. Table 4.11 presents the correlational matrix for 3PS.

Table 4.11 Pearson Correlational Statistics for Enhanced 3PS Post-test Noticing Scores as Measured by Grammaticality Judgment and Reading Tasks & Acquisition Scores as Measured by Picture Description and Free Response Tasks (n=18)

		Noticing Scores		Acquisition Scores	
		GJT	RT	PDT	FRT
Noticing Scores	GJT	1	.116	.176	.068
	RT	.116	1	.432	.454
Acquisition Scores	PDT	.176	.432	1	.396
	FRT	.068	.454	.396	1

Note: The figures indicate Pearson *r* values obtained between the variables in the column and the row. Critical value for .05 = .468 (df = 16).

Table 4.11 indicates that both, the PDT and FRT scores showed somewhat stronger correlations with the RT scores than with the GJT scores. In addition, the correlations between the scores of two tasks that measured 3PS acquisition were stronger than between the two tasks that measured 3PS noticing. However, as is clear from Table 4.11, none of the correlations reached statistical significance at the $p < .05$ level (with $df = 16$).

Thus, the analyses of the relationship between “noticing” and acquisition provided no statistically significant results in support of such a relationship when the GJT and RT scores were used as measures of noticing and PDT and FRT scores were used as measures of acquisition. In other words, noticing 3PS as measured by the GJT or RT did not correlate with the acquisition of this form as measured by either PDT or FRT. What is more, no correlation was established between the two tasks that measured noticing and no correlation was established between the two tasks that measured acquisition. These results might be taken to suggest that noticing 3PS either perceptually or metalinguistically has no direct bearing on the extent to which the target form was subsequently learned. These results corroborate to some extent the findings regarding the gap between 3PS noticing and 3PS acquisition results.

Even though text enhancement had a significant effect on the 3PS RT and 3PS PDT scores, the participants failed to demonstrate any acquisition of the target feature as determined by the 90% acquisition criterion. As noted in Chapter 3 (note 11), this study uses a 90% acquisition criterion. Analyses of 3PS acquisition results revealed that no subjects reached this criterion on either PDT or FRT, the two tasks that measured acquisition. For the PDT, only one participant (NB) demonstrated an acquisition score of

60% at post-test only to drop it to 8% at the delayed post-test, the highest acquisition scores demonstrated on this task. Moreover, only 30% of the scored items on post-test and 29% on delayed post-test were correctly supplied forms (e.g., *He reads his newspaper at four*||). The bulk of the score were oversupplied forms (e.g., *Fie o'clock*| *he's plays his guitar*||). As for the FRT, only one participant (CM) demonstrated 40% acquisition on post-test which dropped to 0% on delayed post-test, with the highest delayed post-test acquisition of 13% demonstrated by two other participants (RS & SPR). Moreover, 31% of the scored items on post-test and 43% on the delayed post-test were oversupplied forms (e.g., *He's reads his bible*||). In addition, 22% of 3PS acquisition results on post-test and 25% on delayed post-test were scored by tallying 3PS copula (*He's a Cat'olic*||) rather than the target 3PS on lexical verbs. In other words, the efficiency of text enhancement on the two tasks that measured acquisition was mostly accounted for by the production of oversupplied forms and copula rather than the target form on lexical verbs. However, there was still no acquisition per se as demonstrated by both since none of the subjects demonstrated 90% acquisition of the target form. The implication of this observation will be considered in Chapter 5.

4.2 Analyses for Hypothesis B

Hypothesis B predicted that subjects receiving textually enhanced treatment would demonstrate a more accurate ability to notice and use the target feature *will*-future than would subjects in the control group. Since the assessment device consisted of more than one task, evidence for this hypothesis will be discussed by examining the subjects' performance on each task separately.

4.2.1 Results of *will*-future Pretest

Initially, factorial analyses of variance (ANOVA) were performed on the pretests for each of the four assessment tasks to determine whether there were any differences between the two groups (Enhanced *will &* Control *will*) in their abilities to recognize and use the target form prior to the treatment. Table 4.12 illustrates descriptive statistics (Means & Standard Deviations) of the Pretest scores for each group on each of the four tasks (grammaticality judgment, reading, picture description, and free response). The results of the ANOVAs are summarized in Table 4.13.

Table 4.12 Descriptive Statistics of GJT, RT, PDT, & FRT of *will*-future Pretest by Groups

Task	Group					
	Enhanced *will*			Control *will*		
	N	M	SD	N	M	SD
GJT	18	27.78	9.43	18	22.22	9.43
RT	18	48.05	5.02	18	45.11	7.75
PDT	18	.167	.71	18	.11	.47
FRT	18	.03	.062	18	.02	.038

Table 4.13 Results of ANOVAs on *will*-future Pretest Scores for GJT, RT, PDT, & FRT

Task	Source of Variation	SS	df	MS	F	*p*
GJT	Between groups	277.78	1	277.78	3.13	.086
	Error	3022.22	34	88.89		
RT	Between groups	78.03	1	78.03	1.83	.185
	Error	1447.73	34	42.58		
PDT	Between groups	.028	1	.028	.077	.783
	Error	12.28	34	.36		
FRT	Between groups	.001	1	.001	.23	.63
	Error	.089	34	.003		

The results from these tables reveal no statistically significant difference between the groups on any task at pretest. Thus, it can be said that the participants in both groups were similar at the outset of the experiment and that any statistically significant post-test difference found between the groups on any task is not related to the participants' prior knowledge of the target feature and is attributed to the experimental treatment.

In addition, it should be noted that the two versions (A & B) created for each of the three tasks (GJT, RT, & PDT) were counterbalanced, as the fact that there were no differences in the scores between the two versions on each task confirms.

4.2.2 Results of *will*-future Noticing

This section presents the results of the data for noticing *will*-future as measured by the grammaticality judgment task and the reading task at pretest, post-test, and delayed post-test.

4.2.2.1 The Grammaticality Judgment Task

Descriptive statistics (Means & Standard Deviations) of the *will*-future GJT at pretest, post-test, & delayed post-test are summarized in Table 4.14 and graphically displayed in Figure 4.5.

Table 4.14 Descriptive Statistics of the *will*-future Grammaticality Judgment Task at Pretest, Post-test, & Delayed Post-test by Groups

	Pretest	Post-test	Delayed Post-test
Enhanced *will*-future			
N	18	18	18
M	27.78	91.67	82.22
SD	9.43	7.07	8.78
Control *will*-future			
N	18	18	18
M	22.22	21.67	21.67
SD	9.43	12.95	9.25

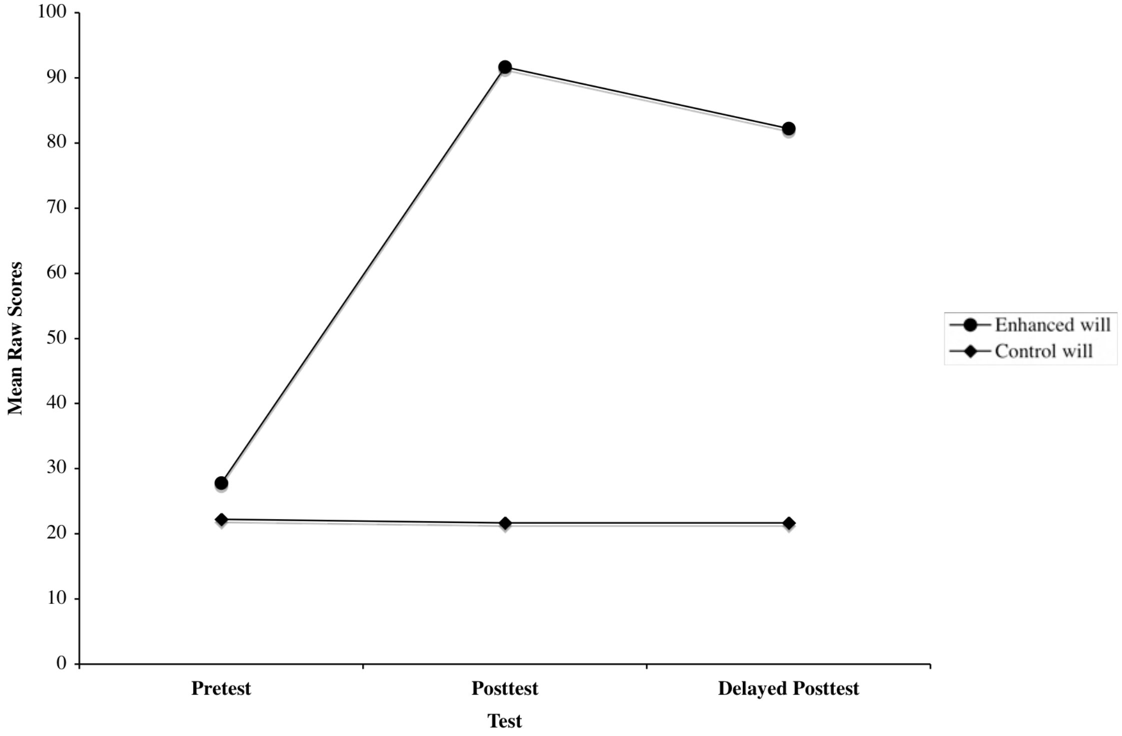

Figure 4.5 Mean Scores for the *will*-future Grammaticality Judgment Task

Table 4.14 and Figure 4.5 display some differences between the pretest and both the immediate and delayed post-test for the two groups. Each group's raw scores were submitted to factorial analyses of variance with repeated measures design in order to determine if these differences were statistically significant. Table 4.15 provides the results of the ANOVAs.

Table 4.15 Results of the Repeated-measure ANOVAs Comparing *will*-future GJT Scores at Pretest, Post-test, & Delayed Post-test by Groups

Group	Source	SS	df	MS	F	*p*
Enhanced *will*	Between	42811.11	2	21405.56	297.28	< .0001
	Error	3672.22	51	72.004		
Control *will*	Between	3.704	2	1.852	.016	.983
	Error	5811.11	51	113.94		

The results of the ANOVAs, as summarized in Table 4.15, reveal no statistically significant difference for the Control group ($p = .98$). At the same time, there is a statistically significant overall difference for the Enhanced group ($p < .0001$). In order to determine the source of this difference, post-hoc analyses were conducted using Fisher's LSD test. These analyses revealed statistically significant differences between the means of the pretest and post-test ($F_{1, 34} = 109.34$, $p < .0001$), and the pretest and delayed post-test ($F_{1, 34} = 321.39$, $p < .0001$) for the Enhanced group. Statistically significant differences were also found between the Enhanced and Control groups on post-test ($F_{1, 34} = 405.24$, $p < .0001$) and delayed post-test ($F_{1, 34} = 406.39$, $p < .0001$) means. In other words, subjects who had received textually enhanced treatment demonstrated an ability to notice and use more accurately the target feature *will*-future than subjects who had received unenhanced treatment. Unfortunately, this effect decreased overtime as evidenced from the comparison of the Enhanced *will*-future post-test and delayed post-test means ($F_{1, 34} = 12.63$, $p = .001$).

In sum, the results of the analyses of the participants' raw scores on the grammaticality judgment task reveal a significant main effect for text enhancement and support Hypothesis B, which predicted that the Enhanced group would outperform the Control group with respect to noticing the target form. The progress which the Enhanced group made was evident at the delayed post-test, conducted three weeks following the completion of the treatment. However, this progress was not maintained at the same level as that of the immediate post-test, a fact demonstrating the decrease of the acquired knowledge.

4.2.2.2 The Reading Task

Descriptive statistics (Means & Standard Deviations) of the reading task at pretest, post-test, and delayed post-test are summarized in Table 4.16 and graphically displayed in Figure 4.6.

Table 4.16 Descriptive Statistics for *will*-future Reading Task Scores at Pretest, Post-test, & Delayed Post-test by Groups

	Pretest	Post-test	Delayed Post-test
Enhanced *will*-future			
N	18	18	18
M	48.05	74.86	60.13
SD	5.02	11.02	10.4
Control *will*-future			
N	18	18	18
M	45.11	42.17	48.03
SD	7.75	9.09	8.61

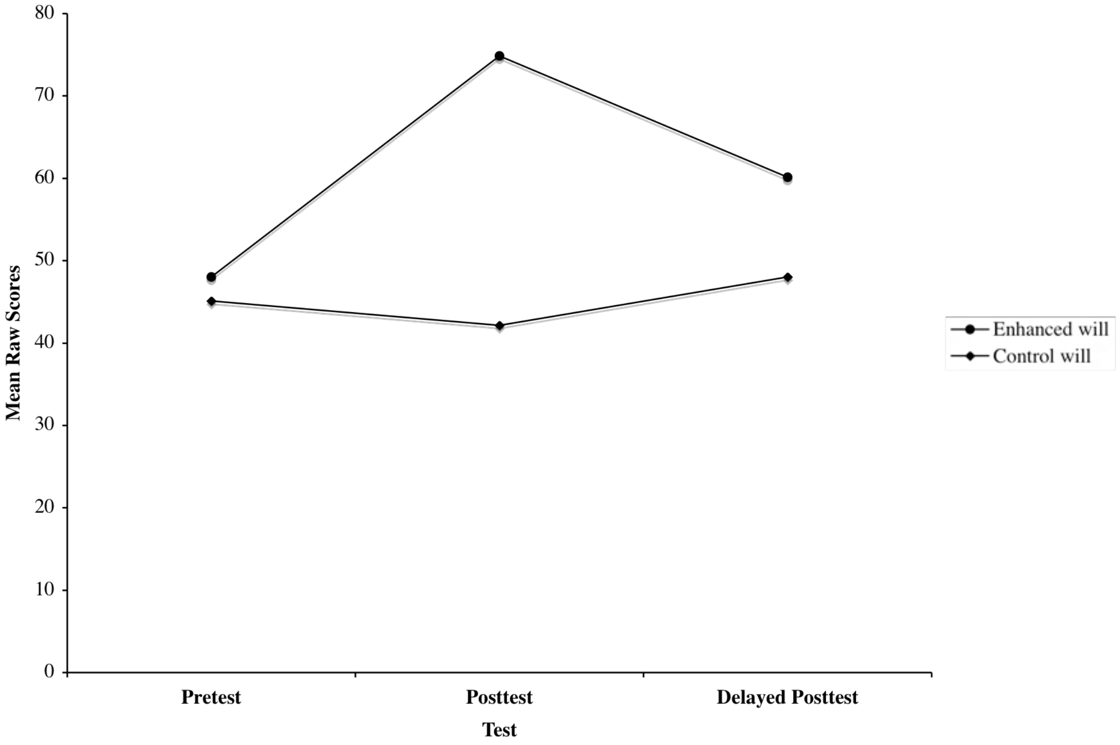

Figure 4.6 Mean Scores for the *will*-future Reading Task

Table 4.16 and Figure 4.6 display some differences for time in each group. In order to determine if these differences were statistically significant, raw scores were submitted to factorial analyses of variance with repeated measures design. Results of the ANOVAs are given in Table 4.17.

Table 4.17 Results of the Repeated-measures ANOVA Comparing *will*-future RT Scores at Pretest, Post-test, & Delayed Post-test by Groups

Group	Source	SS	df	MS	F	*p*
Enhanced *will*	Between	6487.91	2	3243.95	38.2	< .0001
	Error	4330.83	51	84.92		
Control *will*	Between	309.17	2	154.59	2.14	.13
	Error	3683.77	51	72.23		

A statistically significant overall difference was found between the means of the pretest, post-test, and delayed post-test for the Enhanced *will* group. At the same time, no overall statistically significant difference was found for the Control *will* group. Post-hoc analyses demonstrated statistically significant differences between the means of the pretest and post-test ($F_{1, 34} = 88.27$, $p < .0001$), and the pretest and delayed post-test ($F_{1, 34} = 19.68$, $p < .0001$) for the Enhanced *will* group. Statistically significant differences were also found between the Enhanced *will* and Control *will* groups on post-test ($F_{1, 34} = 94.33$, $p < .0001$) and delayed post-test ($F_{1, 34} = 14.45$, $p < .0006$) means. In other words, these results demonstrated that subjects who received textually enhanced treatment showed an ability to notice more accurate the target feature *will*-future than subjects in the control group. Unfortunately, this effect decreased as follows from the comparison of the Enhanced *will* group post-test and delayed post-test means ($F_{1, 34} = 17.01$, $p < .0002$).

In sum, the results of the analyses of the participants’ raw scores on the reading task reveal a significant main effect for text enhancement and support Hypothesis B, which predicted that the Enhanced group would outperform the Control group with respect to the noticing of the target form as measured by the reading task.

4.2.3 Acquisition Results of *will*-future

This section presents the results of the data for the acquisition of *will*-future as measured by two oral production tasks, the picture description task and the free response task at pretest, post-test, and delayed post-test.

4.2.3.1 The Picture Description Task

Descriptive statistics (Means & Standard Deviations) of the picture description task at pretest, post-test, and delayed post-test are summarized in Table 4.18 and graphically displayed in Figure 4.7.

Table 4.18 Descriptive Statistics of *will*-future Picture Description Task at Pretest, Post-test, & Delayed Post-test by Groups

	Pretest	Post-test	Delayed Post-test
Enhanced *will*-future			
N	18	18	18
M	.17	5	1.89
SD	.71	7.76	2.7
Control *will*-future			
N	18	18	18
M	.11	.28	.17
SD	.47	.58	.52

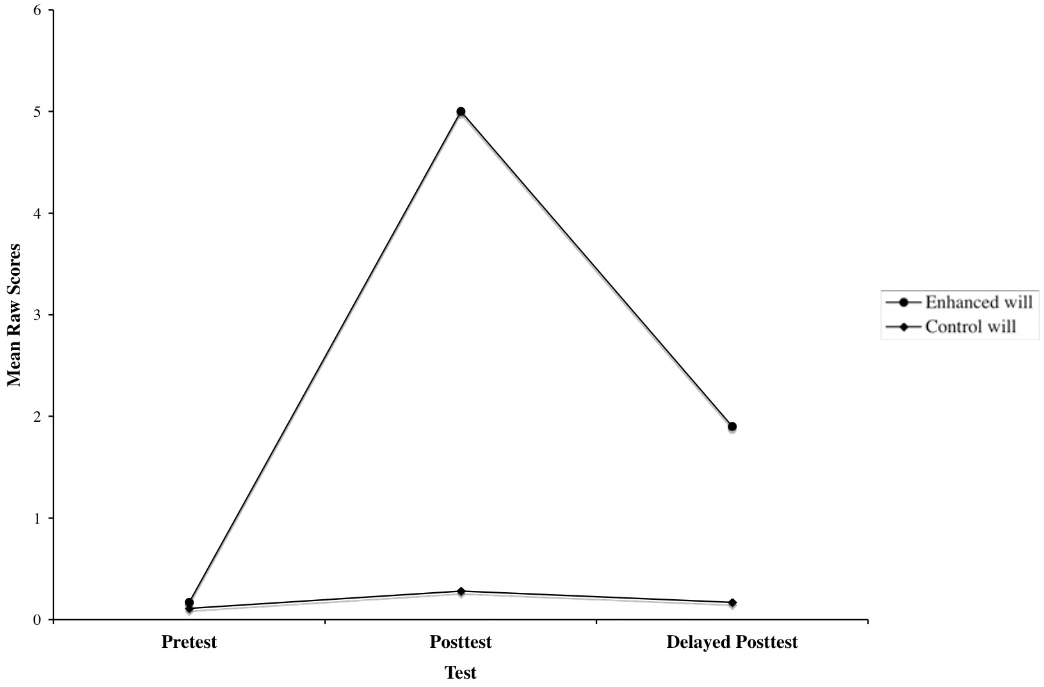

Figure 4.7 Mean Scores for the *will*-future Picture Description Task

Table 4.18 and Figure 4.7 show that the mean scores on the PDT post-test and delayed post-test are higher than on pretest for the Enhanced *will*-future group and differ slightly for the Control *will*-future group. In order to determine if the overall differences were statistically significant, each group's raw scores were submitted to factorial analyses of variance with repeated measures design. The results of the ANOVAs are summarized in Table 4.19.

Table 4.19 ANOVAs of *will*-future PDT at Pretest, Post-test, & Delayed Post-test by Groups

Group	Source	SS	df	MS	F	*p*
Enhanced *will*-future	Between	216.04	2	108.02	4.76	.013
	Error	156.28	51	22.67		
Control *will*-future	Between	.26	2	.13	.48	.62
	Error	13.89	51	.27		

The results from this table reveal no statistically significant difference for the Control *will*-future group (*p* = .62). At the same time, the results demonstrate an overall significant main effect for time for the Enhanced *will*-future group (*p* = .013). Post hoc analyses demonstrated statistically significant difference between the pretest and post-test ($F_{1, 34}$ = 6.92, *p* = .013) and pretest and delayed post-test scores ($F_{1, 34}$ = 6.86, *p* = .013) for the Enhanced *will*-future group. In addition, statistically significant differences were found between the two groups on post-test ($F_{1, 34}$ = 6.63, $p < .015$) and on delayed post-test ($F_{1, 34}$ = 7.08, *p* = .012) scores. In other words, subjects who received textually enhanced treatment demonstrated a more accurate ability to produce the target feature *will*-future than subjects in the Control group. Moreover, even though the Enhanced *will*-future group's scores went down at the delayed post-test, no significant difference was found between the post-test and delayed post-test means ($F_{1, 34}$ = 2.58, *p* = .12), a fact which demonstrated that the effect of text enhancement remained three weeks following the completion of the treatment.

In sum, the results of the analyses of the participants' raw scores on the picture description task demonstrate that textually enhanced treatment was effective in improving participants' acquisition of *will*-future as measured by the PDT and support the prediction of Hypothesis B that the Enhanced group would outperform the Control group with respect to the acquisition of the target form.

4.2.3.2 The Free Response Task

Descriptive statistics (Means & Standard Deviations) of the free response task at pretest, post-test, and delayed post-test are summarized in Table 4.20 and graphically displayed in Figure 4.8.

Table 4.20 Descriptive Statistics of *will*-future Free Response Task at Pretest, Post-test, & Delayed Post-test by Groups

	Pretest	Post-test	Delayed Post-test
Enhanced *will*-future			
N	18	18	18
M	.03	.24	.17
SD	.06	.12	.13
Control *will*-future			
N	18	18	18
M	.02	.07	.04
SD	.04	.12	.07

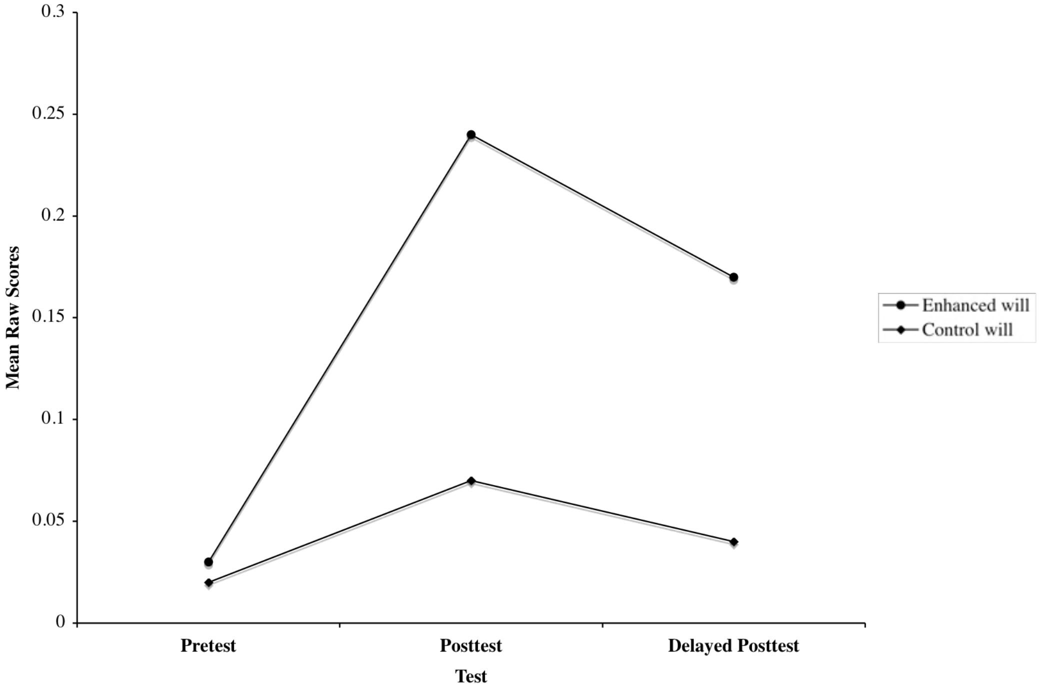

Figure 4.8 Mean Scores for the *will*-future Free Response Task

The overall test results displayed in Table 4.20 and Figure 4.8 show that the mean scores on the FRT post-test and delayed post-test are higher than on the pretest for both the Enhanced and Control *will*-future groups. Each group's raw scores were submitted to factorial analyses of variance with repeated measures design in order to determine if the overall differences were statistically significant. Results of the ANOVAs are given in Table 4.21.

Table 4.21 ANOVAs of *will*-future FRT at Pretest, Post-test, & Delayed Post-test by Groups

Group	Source	SS	df	MS	F	*p*
Enhanced *will*-future	Between	.425	2	.213	18.81	< .001
	Error	.577	51	.011		
Control *will*-future	Between	.023	2	.011	1.74	.19
	Error	.332	51	.007		

Repeated measures ANOVAs demonstrated no statistically significant differences for the Control *will*-future group ($F_{2, 51}$ = 1.74, p = .19). A statistically significant overall difference was found for the Enhanced *will*-future group ($F_{2, 51}$ = 18.81, p < .001). Post hoc analyses of the Enhanced *will*-future scores demonstrated statistically significant differences between pretest and post-test ($F_{1, 34}$ = 46.8, p < .001) and pretest and delayed post-test scores ($F_{1, 34}$ = 5.6, p = .024). In addition, statistically significant differences were found between the Enhanced and Control *will*-future groups on post-test ($F_{1, 34}$ = 19.61, p < .001) and delayed post-test ($F_{1, 34}$ = 15.14, p = .0004) scores. In other words, subjects who had received textually enhanced treatment demonstrated a more accurate ability to notice the target feature *will*-future than subjects who had received unenhanced treatment. Moreover, this effect did not decrease at the delayed post-test three weeks following the completion of the treatment, as evidenced from the comparison of the Enhanced *will*-future post-test and delayed post-test means ($F_{1, 34}$ = 17.47, p = .0002).

In sum, the results of the analyses of the participants’ raw scores on the free response task reveal a significant main effect for text enhancement and support Hypothesis B, which predicted that the Enhanced group would outperform the Control group with respect to the acquisition of the target form as measured by the free response task.

4.2.4 Summary of Evidence for Hypothesis B

Hypothesis B predicted that subjects receiving textually enhanced treatment would demonstrate a more accurate ability to notice and use the target feature *will*-future than would subjects receiving unenhanced treatment. Analyses of the subjects' performance on all four tasks demonstrated that text enhancement was effective in allowing the participants to notice *will*-future both metalinguistically, as evident from the GJT results and perceptually, as evident from the RT results. Text enhancement was also effective in allowing the participants to produce the target feature in controlled contexts, as evident from the PDT results as well as during less constrained meaningful communication, as evident from the FRT results. The results of the four tasks that provided evidence for Hypothesis B are summarized in Table 4.22.

Table 4.22 Evidence for Hypothesis B

Enhanced *will*-future vs. Control *will*-future					
Test time	GJT	RT	PDT	FRT	
Pretest	H0	H0	H0	H0	H0: groups have equal knowledge ($M_E = M_C$) against H1: knowledge is different ($M_E \neq M_C$)
Post-test	H1	H1	H1	H1	H0: groups have equal knowledge ($M_E = M_C$) against H1: knowledge is different ($M_E \neq M_C$)
Delayed Post-test	H1	H1	H1	H1	H0: groups have equal knowledge ($M_E = M_C$) against H1: knowledge is different ($M_E \neq M_C$)

Enhanced *will*-future					
Test period	GJT	RT	PDT	FRT	
Pretest — Post-test	H1	H1	H1	H1	H0: treatment does not work ($M_P = M_0$) against H1: treatment works ($M_P > M_0$)
Post-test — Delayed Post-test	H1	H1	H0	H0	H0: knowledge did not change ($M_D = M_P$) against H1: knowledge decreased ($M_D < M_P$)
Pretest— Delayed Post-test	H1	H1	H1	H1	H0: treatment does not work after 3 weeks ($M_D = M_0$) against H1: treatment works ($M_D > M_0$)

Significance level for hypothesis is .05 (5%)

H0 = Null Hypothesis	H1 = Research Hypothesis
M_E= Enhanced group Mean	M_C = Control Group Mean
M_0 = Pretest Mean	M_P = Post-test Mean
M_D = Delayed Post-test Mean	

To summarize, with regards to the second research question of whether text enhancement can facilitate the noticing and subsequent acquisition of *will*-future, the answer is *yes*. As evident from Table 4.22, both tasks that measured noticing (GJT & RT) and both tasks that measured acquisition (PDT & FRT) revealed significant main effects for enhanced treatment. Thus, the results of Experiment 2 support Hypothesis B.

As a methodological inquiry, the GJT and RT scores were compared in an attempt to determine the degree of congruence between these two methods of measuring noticing and the PDT and FRT scores were compared in an attempt to determine the degree of congruence between these two methods of measuring acquisition. In addition, since Hypotheses B predicted that the participants would demonstrate better noticing and subsequent acquisition of *will*-future, it seemed relevant to test for the relationship between noticing and acquisition.

Correlational analyses using Pearson product-moment correlation on the grammaticality judgment and reading task post-test scores as measures of "noticing" and on the picture description and free response task post-test scores as measures of acquisition tested for these relationships. Table 4.23 presents the correlational matrix for *will*-future.

Table 4.23 Pearson Correlational Statistics for Enhanced *will*-future Post-test Noticing Scores as Measured by Grammaticality Judgment and Reading Tasks & Acquisition Scores as Measured by Picture Description and Free Response Tasks (n = 18)

		Noticing Scores		Acquisition Scores	
		GJT	RT	PDT	FRT
Noticing Scores	GJT	1	-.141	.354	.305
	RT	-.141	1	.381	-.105
Acquisition Scores	PDT	.354	.381	1	.146
	FRT	.305	-.105	.146	1

Note: The figures indicate Pearson *r* values obtained between the variables in the column and the row. Critical value for .05 = .468 (df = 16).

Table 4.23 indicates very weak correlations between the scores of the two tasks that measured *will*-future noticing and between the scores of the two tasks that measured *will*-future acquisition. At the same time the PDT scores showed somewhat stronger correlations with both, the GJT and the RT scores while the FRT scores had somewhat stronger correlations with the GJT scores than with the RT scores. However, again, as with 3PS, none of the correlations reached statistical significance at the $p < .05$ level (with df = 16).

Thus, to summarize the results of the analyses on the relationship between noticing and acquisition, no statistically significant results were obtained in support of such a relationship. In other words, noticing *will*-future as measured by the GJT or RT did not correlate with the acquisition of this form as measured by either PDT or FRT. What is more, no correlation was established between the two tasks that measured noticing and no correlation was established between the two tasks that measured acquisition. This absence of correlation might be taken to suggest that noticing *will*-future either perceptually or linguistically has no direct bearing on the extent to which the target form was subsequently learned. These results corroborate to some extent the findings regarding the gap between *will*-future noticing and *will*-future acquisition.

Even though text enhancement had a significant effect on both measures of *will*-future noticing scores and on both measures of *will*-future acquisition scores, the participants failed to demonstrate any acquisition of the target feature as determined by the 90% acquisition criterion. Analyses of *will*-future acquisition results revealed that only two subjects demonstrated 100% acquisition on PDT post-test (MDJ & MS) only to drop their scores to 10% and 30% on delayed post-test, respectively. As for the FRT, the highest acquisition score on post-test was 42% demonstrated by two participants, PB & IC, both of whom dropped their scores to 29 % on delayed post-test. The highest acquisition score on delayed post-test was 31% demonstrated by one subject (MDJ).

It should also be noted that of the total *will*-future target features on PDT post-test, 84% were correctly supplied forms (e.g., *Mr. Bill will go to churt twelve noon*‖) while 16% were double supplied forms (e.g., *Jane will woke up 7*‖). At PDT delayed post-test, however, only 26% of the score were correctly supplied *will*-future forms and the bulk of the score (74%) were double supplied forms. As for the FRT, only 29% of the scored forms on post-test and 44% on delayed post-test were correctly supplied target features. The bulk of the score, 69% on post-test and 53% on delayed post-test, were alternative forms (present simple, present progressive, or different modals), as in (1).

(1)	a) present simple:	*It is Sunday tomorrow*||
	b) present progressive:	*She*'*s goin*' *Haiti nex*' *Sunday*||
	c) different modals:	*Den*| *mah husban*' *would go bible study*|| *He migh*' *watch TV or somet*'*in*'||

However, despite the efficiency of text enhancement, there was no acquisition per se as demonstrated by both the PDT and FRT since none of the subjects demonstrated 90% acquisition of the target form at delayed post-test. The implication of this observation will be considered in Chapter 5.

Moreover, since both the free (*will*) and the bound ('*ll*) morphemes of *will*-future target feature were implemented in the GJT and RT, it became relevant to provide deeper analyses of the results on these tasks with the purpose of investigating whether or not the difference in the two manifestations of *will*-future had different effects on the participants’ noticing the target feature and whether or not the increase of the acquired knowledge at GJT and RT post-tests and its subsequent decrease at GJT and RT delayed post-tests were caused by this difference, if there was any such difference. These analyses will be presented later in this chapter to address Hypothesis D.

4.3 Analyses for Hypothesis C

Hypothesis C predicted that the effect of text enhancement that was anticipated at the immediate post-test would still be significant at the delayed post-test three weeks after the treatment. Since Hypothesis C is dependent on Hypotheses A and B, evidence for this hypothesis was provided earlier in this chapter when the first two hypotheses were addressed.

As shown earlier in this chapter and summarized in Table 4.10, the Enhanced 3PS group outperformed the Control 3PS group on the delayed post-test on the RT ($F_{1, 574}$ = 229.89, $p < .0001$) and on the PDT ($F_{1, 358}$ = 6.4, $p = .01$)**.** Even though the Enhanced 3PS group dropped their gains at delayed post-test on the RT and PDT, a significant difference between the pretest and delayed post-test still remained on both tasks (RT: $F_{1, 574}$ = 206, p = < .0001; PDT: $F_{1, 358}$ = 6.4, $p = .012$). At the same time, no significant progress was made by the Enhanced 3PS group on either GJT ($F_{1, 358}$ = .76, $p = .47$) or FRT ($F_{1,34}$ = .05, $p = .82$) and there was no difference between the Enhanced 3PS and Control 3PS groups on the delayed post-test for these two tasks (GJT: $F_{1, 358}$ = .01, p = .916; FRT: $F_{1, 34}$ = .125, $p = .726$). Even though the GJT scores increased from pretest to delayed post-test for the Enhanced group, the increase was not statistically significant. As for the FRT, the Enhanced 3PS group made some progress between the pretest and post-test ($F_{1, 34}$ = 5, $p = .03$), only to drop it at the delayed post-test.

As evidenced earlier in this chapter and summarized in Table 4.22, the Enhanced *will*-future group outperformed the Control *will*-future group at delayed post-test on both tasks that measured noticing (GJT: $F_{1, 358} = 406.39$, $p < .0001$; RT: $F_{1, 574} = 14.45$, $p < .0006$) and on both tasks that measured acquisition (PDT: $F_{1, 358} = 7.08$, $p < .012$; FRT: $F_{1, 34} = 15.14$, $p < .0004$). The statistically significant differences between the two groups on the delayed post-test and the progress that the Enhanced *will*-future group made between the pretest and delayed post-test (GJT: $F_{1, 358} = 321.39$, $p < .0001$; RT: $F_{1, 574} = 19.68$, $p < .0001$; PDT: $F_{1, 358} = 6.92$, $p < .013$; FRT: $F_{1, 34} = 5.6$, $p < .024$) support Hypothesis C. Even though the Enhanced *will*-future group's scores dropped on the delayed post-test (a statistically significant drop for GJT & RT and an insignificant drop for PDT & FRT**)**, the effect of text enhancement remained evident three weeks following the completion of the treatment on each of the four tasks.

In sum, Hypothesis C is partially supported—the results of the 3PS reading and picture description tasks in Experiment 1 and all four tasks in Experiment 2, namely *will*-future grammaticality judgment, reading, picture description, and free response tasks, support Hypothesis C.

4.4 Analyses for Hypothesis D

Hypothesis D predicted that learners receiving enhanced input of the free morpheme *will* will demonstrate a more accurate ability to notice and produce the target feature than learners who received enhanced input of the bound morpheme 3PS. Evidence for this hypothesis is provided by comparing the results used to address Hypotheses A, B, and C and by the additional analyses of Experiment 2 data on the GJT and RT when two manifestations of *will*-future forms, full (*will*) and cliticized ('*ll*), were analyzed separately.

4.4.1 Noticing Results

As was evident from the results of Experiment 1 (3PS), which addressed Hypothesis A, the subjects' performance on the two tasks that measured noticing 3PS provided mixed results. While text enhancement was ineffective in improving the participants' metalinguistic knowledge of the target feature (3PS GJT results), text enhancement was effective in focusing learners' attention on the target form and allowing them to notice the form while reading (3PS RT results). In other words, the current study participants noticed 3PS perceptually as evident from their improvement on the 3PS RT scores but they did not notice it metalinguistically as evident from the lack of improvement on the 3PS GJT scores.

The results of Experiment 2 (*will*-future) address Hypothesis B. The subjects' performance on the two tasks that measured noticing demonstrated that text enhancement was effective in allowing the participants to notice the target feature both metalinguistically and perceptually. The Enhanced group outperformed the Control group on both, the GJT and RT and thus demonstrated that text enhancement was effective in focusing learners' attention on *will*-future and allowing them to improve their metalinguistic knowledge of the target feature and to notice the form while reading. However, as was the case with the 3PS reading task, the participants' knowledge of *will*-future decreased at delayed post-tests for both the grammaticality judgment and reading tasks even though these changes were not significant.

Since both the full form *will* and the clitic '*ll* were implemented in the grammaticality judgment and reading tasks of Experiment 2, it became relevant to provide deeper analyses of these tasks with the purpose of investigating whether or not the difference between the two manifestations of *will*-future had different effects on the participants' noticing the target feature and whether or not the increase of the acquired knowledge at GJT and RT post-tests and its subsequent decrease at GJT and RT delayed post-tests were caused by this difference, if there was any. Consequently, in line with Hypothesis D, which predicted that learners who received enhanced input of the free morpheme *will* would demonstrate a more accurate ability to notice and produce the target feature than learners who received enhanced input of the bound morpheme 3PS, it was additionally hypothesized that textual enhancement would have different affects on participants' noticing the free morpheme *will* and the cliticized[1] morpheme 'll and that the effect would be in favor of the free morpheme[2].

4.4.1.1 Additional Analyses of GJT Data

In order to investigate this Additional Hypothesis, the GJT sentences with the target feature were divided into two sets: sentences containing the free morpheme *will* (Set 1) and sentences containing the enclitic '*ll* (Set 2). The distribution of verbs with the target features are given in Table 4.24 by sets.

Table 4.24 Arrangement of the GJT *will*-future Verbs by Sets

GJT Set 1 *will*			GJT Set 2 *'ll*		
Pretest	Post-test	Delayed Post-test	Pretest	Post-test	Delayed Post-test
get	will get	get	'll deliver	deliver	'll deliver
go	will go	go	'll drive	drive	'll drive
will say	say	will say	put	'll put	put
will sort	sort	will sort	walk	'll walk	walk
will wake up	wake up	will wake up			
play	will play	play			

The same analyses, conducted for GJT *will*-future, were applied to the GJT Set 1 and GJT Set 2. The results of ANOVAs performed on the subjects' pretest scores revealed no significant difference between the Enhanced and Control GJT Set 1 (F = 2.66, p = .11) and the Enhanced and Control GJT Set 2 (F = 1, p = .32) with respect to their knowledge of the target feature at the onset of the experiment. These results permit confidence that any changes in the subjects' performance are a result of the treatment which they received.

4.4.1.1.1 Results of GJT Set 1

Descriptive statistics of GJT Set 1 (*will*) at pretest, post-test, and delayed post-test are summarized in Table 4.25 and graphically displayed in Figure 4.9.

Table 4.25 Descriptive Statistics of GJT *will*-future Set 1 at Pretest, Post-test & Delayed Post-test

	Pretest	Post-test	Delayed Post-test
Enhanced *will*-future Set 1			
N	18	18	18
M	45.37	98.14	96.29
SD	14.91	5.4	9.14
Control *will*-future Set 1			
N	18	18	18
M	37.03	35.20	36.10
SD	15.72	20.52	15.39

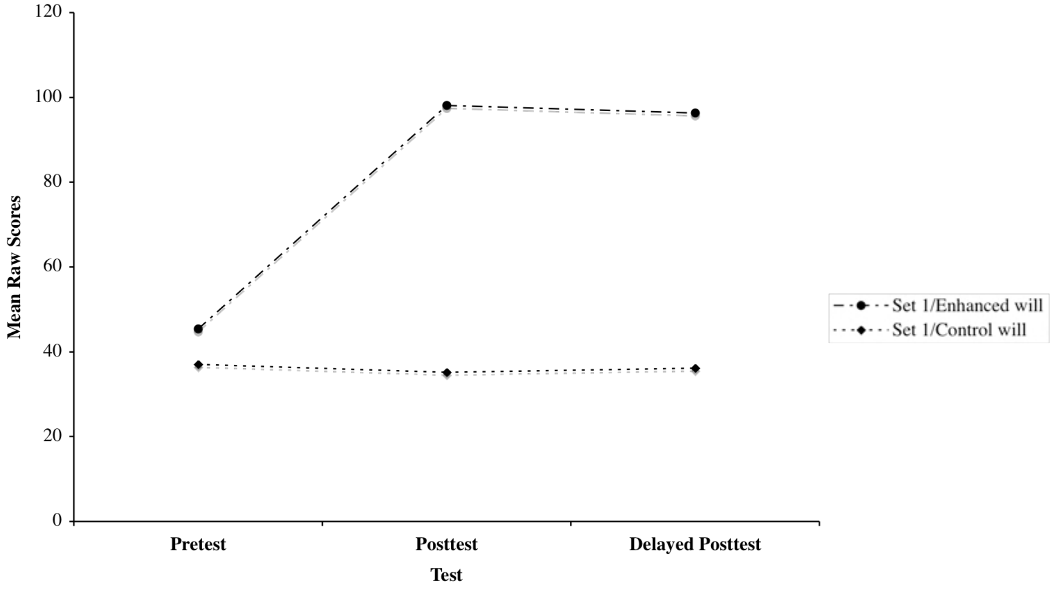

Figure 4.9 Mean Scores for the *will*-future GJT Set 1

Table 4.25 and Figure 4.9 display some differences for time in both Enhanced and Control sets. In order to determine if these differences were statistically significant, raw scores were submitted to factorial analyses of variance with repeat-measure design. Table 4.26 records the results of the ANOVAs.

Table 4.26 Results of the Repeated-measures ANOVA Comparing Scores on GJT Set 1 at Pretest, Post-test, & Delayed Post-test

Set 1	Source	SS	df	MS	F	*P*
Enhanced *will*	Between	32295.33	2	16147.66	144.68	< .0001
	Error	5692.23	51	111.61		
Control *will*	Between	30.07	2	15.035	.05	.95
	Error	15383.86	51	301.64		

The results of the repeated measures ANOVAs demonstrate a statistically significant overall difference for the Enhanced GJT Set 1 ($p < .0001$) and no statistically significant difference for the Control GJT Set 1 ($p = .95$). Analysis for the Enhanced GJT Set 1 revealed statistically significant differences between the means of the pretest and post-test ($F_{1, 34} = 199.49$, $p < .0001$) and the pretest and delayed post-test ($F_{1, 34} = 152.73$, $p < .0001$). Statistically significant differences were also found between the Enhanced and Control GJT Sets 1 on post-test ($F_{1, 34} = 158.44$, $p < .0001$) and delayed post-test ($F_{1, 34} = 203.50$, $p < .0001$) means. In other words, subjects in Enhanced GJT Set 1 displayed a more accurate ability to notice the target feature *will* than subjects in the Control GJT Set 1. Moreover, the progress that Enhanced GJT Set 1 made was maintained through the delayed post-test as evidenced by the fact that no difference was found between the post-test and delayed post-test means ($F_{1, 34}$ = .547, *p* = .465).

In sum, statistical analyses of the data from the GJT Set 1 sentences that contained the free morpheme *will* revealed a significant main effect for text enhancement and thus demonstrated that text enhancement was effective in allowing the participants to notice *will* and to improve their metalinguistic knowledge of the target feature. The progress which the participants of the GJT Set 1 made was evident at the delayed post-test, conducted three weeks following the completion of the treatment, and was maintained at the same level as that of the immediate post-test demonstrating no decrease of the acquired knowledge.

4.4.1.1.2 Results of GJT Set 2

Descriptive statistics of Set 2 ('*ll*) at pretest, post-test, and delayed post-test are summarized Table 4.27 and graphically displayed in Figure 4.10.

Table 4.27 Descriptive Statistics of GJT Enhanced and Control Set 2 ('*ll)* at Pretest, Post-test, & Delayed Post-test

	Pretest	Post-test	Delayed Post-test
Enhanced *will*-future Set 2			
N	18	18	18
M	1.39	81.94	61.11
SD	5.89	18.80	17.62
Control *will*-future Set 2			
N	18	18	18
M	0	1.39	0
SD	0	5.89	0

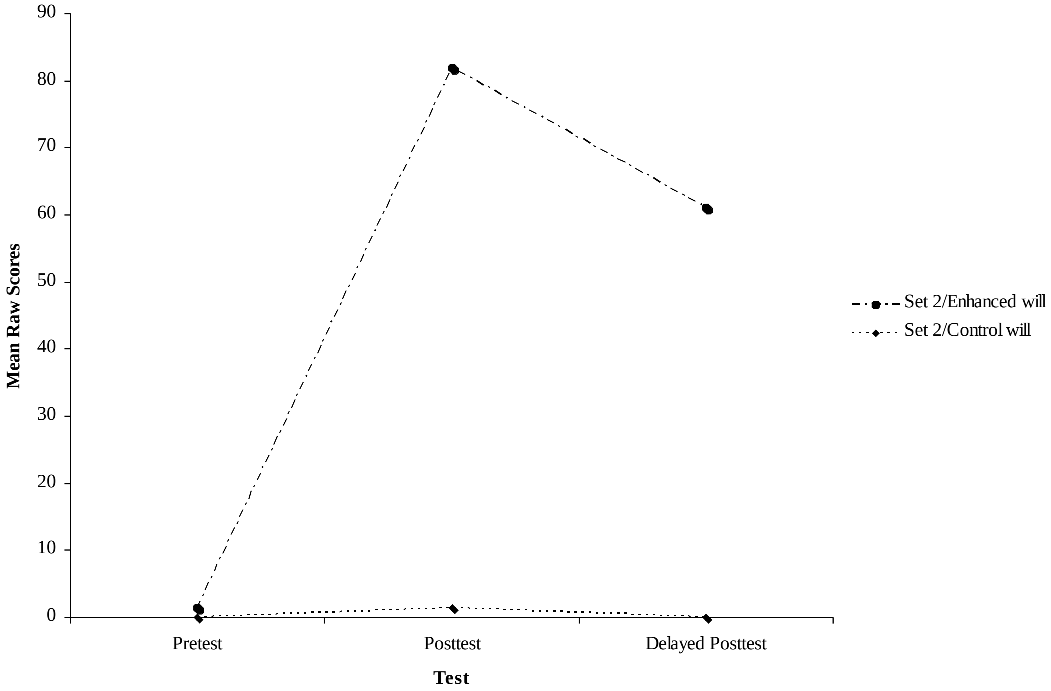

Figure 4.10 Mean Scores for the *will*-future GJT Set 2

Table 4.27 and Figure 4.10 display some differences for time in each set. In order to determine if these differences were statistically significant, raw scores were submitted to factorial analyses of variance with repeated measures design. Results of the ANOVAs are given in Table 4.28.

Table 4.28 Results of the Repeated-measures ANOVA Comparing Scores on GJT Set 2 at Pretest, Post-test, & Delayed Post-test by Sets

Set 2	Source	SS	df	MS	F	*p*
Enhanced '*ll*	Between sets	62939.82	2	31469.91	135.16	< .0001
	Error	11875	51	232.84		
Control '*ll*	Between sets	23.36	2	11.68	1.03	.37
	Error	590.28	52	11.35		

The results of the repeated measures ANOVAs reveal a statistically significant overall difference for the Enhanced GJT Set 2 ($p < .0001$) and no statistically significant difference for the Control GJT Set 2 ($p = .37$). Post hoc analysis for the Enhanced GJT Set 2 revealed statistically significant differences between the means of the pretest and post-test (F = 348.71, $p < .0001$) and the pretest and delayed post-test (F = 109.82, $p < .0001$). Statistically significant differences were also found between the Enhanced and Control GJT Set 2 on post-test (F = 158.44, $p < .0001$) and delayed post-test (F = 203.50, $p < .0001$) means. In other words, the Enhanced group subjects displayed a more accurate ability to notice the enclitic '*ll* than the Control group subjects. However, a statistically significant difference was found between the post-test and delayed post-test means for the Enhanced GJT Set 2 (F = 11.77, $p = .002$), a difference which demonstrated that the effect of text enhancement decreased three weeks after the treatment.

In sum, statistical analyses of the data from the GJT Set 2 ('*ll)* reveal a significant main effect for text enhancement and thus demonstrate the effectiveness of text enhancement in allowing the participants to notice the cliticized morpheme '*ll* and to improve their metalinguistic knowledge of the target feature. The progress which the Enhanced group made was evident at the delayed post-test, conducted three weeks following the completion of the treatment. However, this progress was not maintained at the same level as that of the immediate post-test, a fact demonstrating some decrease of the acquired knowledge.

4.4.1.2 Additional Analyses of RT Data

As was the case with the GJT, both the free *will* and the cliticized '*ll* morphemes were implemented in the RT. Consequently, as with the GJT, it was additionally hypothesized that textual enhancement would have different effects on the participants' noticing these two manifestations of the *will*-future target feature and that the enhancement would lead to more ready recognition, use, and "long term" acquisition of the free form of the morpheme. In order to investigate this additional hypothesis, the RT sentences with the *will*-future target form were divided into two sets: sentences containing the free morpheme *will* (RT Set 1) and sentences containing the enclitic '*ll* (RT Set 2). Verbs with the target features from these two sets are given in Table 4.29.

Table 4.29 Arrangement of the RT *will*-future Verbs by Sets

RT Set 1 *will*	RT Set 2 '*ll*
will live	'll work
will go	'll rent
will arrive	'll take
will be	'll get
will like	'll eat
will hurry	'll drink
will spend	'll play
will swim	'll listen
will read	

The same analyses, performed on the RT *will*-future scores, were applied to the RT Set 1 and RT Set 2 scores. The results of the ANOVAs performed on the subjects' pretest scores revealed no significant difference between the Enhanced and Control RT Set 1 (F = 1.63, p = .21) and the Enhanced and Control RT Set 2 (F = 2.13, p = .15) with respect to their knowledge of the target feature at the onset of the experiment. These results permit confidence that any changes in the subjects' performance are a result of the treatment which they received.

4.4.1.2.1 Results of RT Set 1

Descriptive statistics of RT Set 1 (*will*) at pretest, post-test, and delayed post-test are summarized in Table 4.30 and graphically displayed in Figure 4.11.

Table 4.30 Descriptive Statistics of *will*-future Reading Task Set 1 at Pretest, Post-test, & Delayed Post-test

	Pretest	Post-test	Delayed Post-test
Enhanced *will*-future Set 1			
N	18	18	18
M	89.51	98.77	96.3
SD	8.05	3.59	6.59
Control *will*-future Set 1			
N	18	18	18
M	84.58	84.58	90.13
SD	14.33	14.33	18.63

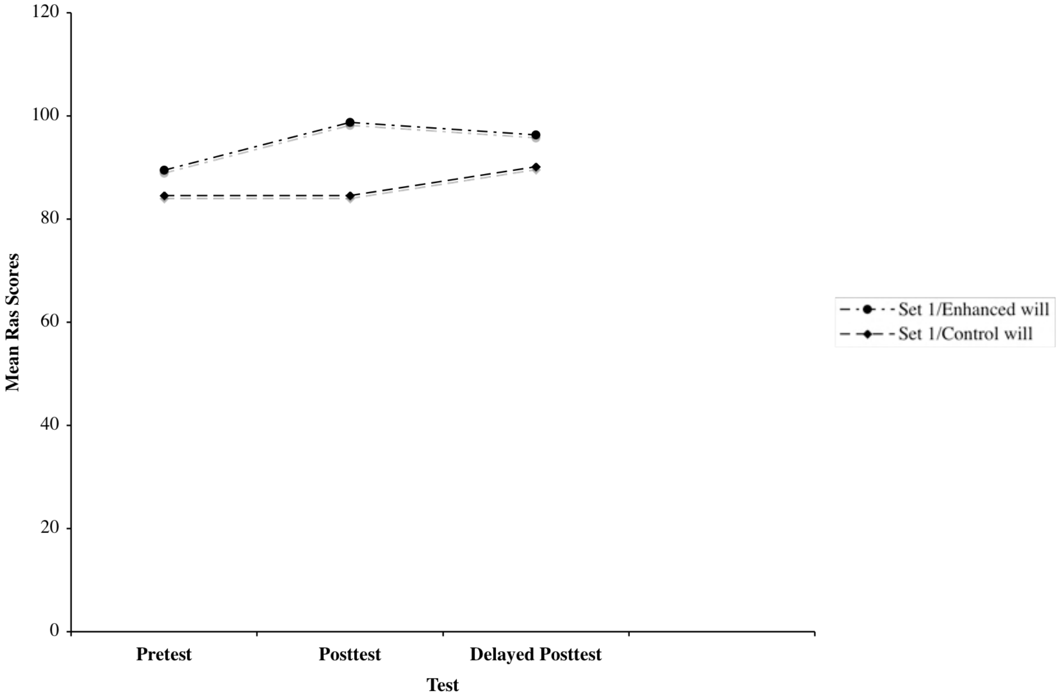

Figure 4.11 Mean Scores for the *will*-future RT Set 1

Table 4.30 and Figure 4.11 display some differences for time. In order to determine if these differences were statistically significant, raw scores were submitted to factorial analyses of variance with repeated measures design. Results of the ANOVAs are given in Table 4.31.

Table 4.31 Results of the Repeated-measures ANOVA Comparing Enhanced and Control RT Set 1 Scores at Pretest, Post-test, & Delayed Post-test

Set 1	Source	SS	df	MS	F	*p*
Enhanced *will*	Between	825.96	2	412.98	10.22	.0002
	Error	2002.17	51	39.26		
Control *will*	Between	369.63	2	184.82	0.73	.49
	Error	12884.54	51	252.64		

The results of the repeated measures ANOVAs demonstrate a statistically significant overall difference for the Enhanced RT Set 1 ($p = .0002$) and no statistically significant difference for the Control RT Set 1 ($p = .49$). Post hoc analyses for the Enhanced RT Set 1 revealed statistically significant differences between the means of the pretest and post-test ($F_{1,\,34} = 19.82$, $p < .0001$) and the pretest and delayed post-test ($F_{1,34} = 7.65$, $p < .009$) with no difference between the post-test and delayed post-test means ($F_{1,\,34} = 1.94$, $p = .17$). Statistically significant differences were also found between the Enhanced and Control RT Sets 1 on post-test ($F_{1,\,34} = 15.05$, $p = .0004$). However, there was no difference between the means of the RT Set 1 Enhanced and Control groups at delayed post-test ($F_{1,\,34} = 1.76$, $p = .19$). It seems that the insignificant increase of the Control Group Set 1 delayed post-test scores and the insignificant decrease of the Enhanced Group Set 1 scores leveled out the differences between the two groups at delayed post-test. In other words, text enhancement was ineffective in allowing the participants to better notice the free morpheme *will* as demonstrated by the statistical analyses of the RT Set 1 results. A possible explanation for the failure of the RT Set 1 to show any between-group discrimination may be attributable to a ceiling effect, since, as can be seen from Table 4.31 and Figure 4.11, both groups started out with already relatively high scores at the time of the pretest.

4.4.1.2.2 Results of RT Set 2

Descriptive statistics (Means & Standard Deviations) of Set 2 ('*ll*) at pretest, post-test, and delayed post-test are summarized in Table 4.32 and graphically displayed in Figure 4.12.

Table 4.32 Descriptive Statistics of RT Set 2 (*'ll)* at Pretest, Post-test, & Delayed Post-test

	Pretest	Post-test	Delayed Post-test
Enhanced *will*-future Set 1			
N	18	18	18
M	1.39	47.92	19.44
SD	4.04	22.38	18.3
Control *will*-future Set 1			
N	18	18	18
M	0	.69	.66
SD	0	2.95	2.87

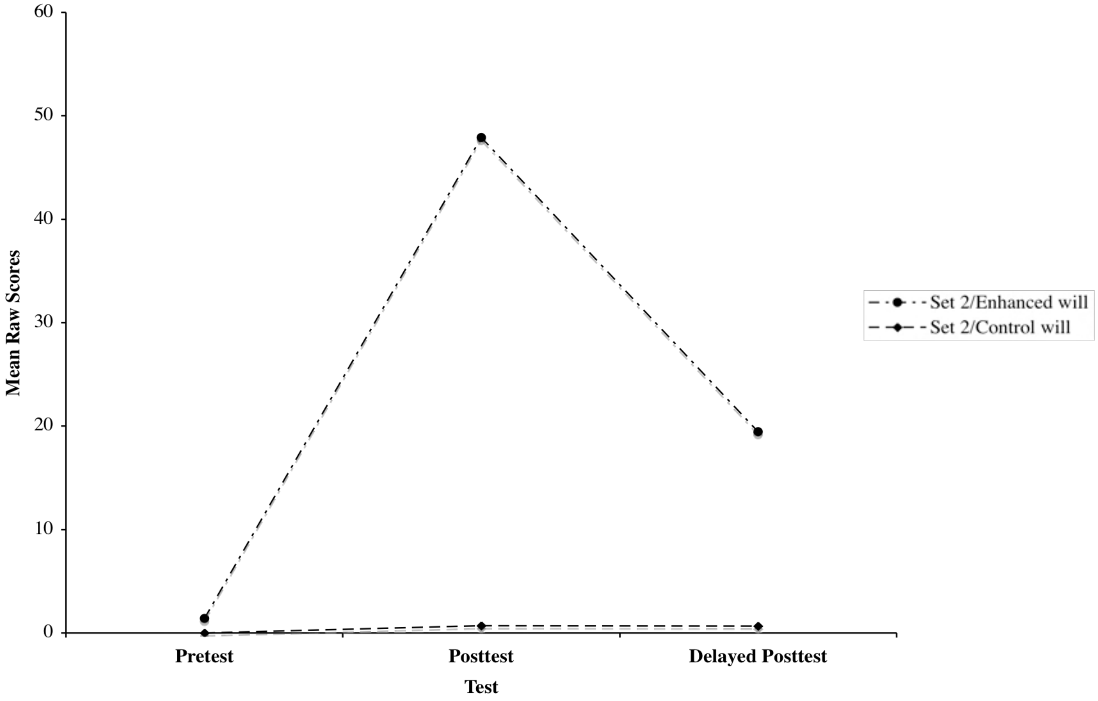

Figure 4.12 Mean Scores for the *will*-future RT Set 2

Table 4.33 and Figure 4.12 display some differences for time in each set. In order to determine if these differences were statistically significant, raw scores were submitted to factorial analyses of variance with repeated measures design. Results of the ANOVAs are given in Table 4.33.

Table 4.33 RT Set 2: Results of the Repeated-measures ANOVA Comparing Scores at Pretest, Post-test, and Delayed Post-test by Groups

Set 2	Source	SS	df	MS	F	*p*
Enhanced '*ll*	Between	19809.03	2	9904.51	34.87	< .0001
	Error	14487.85	51	284.08		
Control '*ll*	Between	5.54	2	2.77	.49	.62
	Error	295.6	52	5.68		

The results of the repeated measures ANOVAs reveal a statistically significant overall difference for the Enhanced GJT Set 2 (*p* < .0001) and no statistically significant difference for the Control GJT Set 2 (*p* = .62). Post hoc analyses for the Enhanced RT Set 2 reveal statistically significant differences between the means of the pretest and post-test (F = 75.33, *p* < .0001) and the pretest and delayed post-test (F = 16.7, *p* < .0003). Statistically significant differences were also found between the Enhanced and Control RT Set 2 on post-test (F = 78.77, *p* < .0001) and delayed post-test (F = 18.42, *p* < .0001) means. In other words, the Enhanced group subjects displayed a more accurate ability to notice the clitic '*ll* than the Control group subjects. However, a statistically significant difference was found between the post-test and delayed post-test means for the Enhanced Set 2 (F = 17.46, *p* = .002**)**, a difference which demonstrated that the effect of text enhancement decreased three weeks after the treatment.

In sum, statistical analyses of the data from the RT Set 2 revealed a significant main effect for text enhancement and thus demonstrated the effectiveness of text enhancement in allowing the participants to notice the cliticized morpheme '*ll* and to improve their metalinguistic knowledge of the target feature. The progress which Enhanced group made was evident at the delayed post-test, conducted three weeks following the completion of the treatment even though it was not maintained at the same level as that of the immediate post-test.

4.4.1.3 Summary of Evidence for Additional Hypothesis

The results for noticing *will*-future target form in its two manifestations, the free morpheme *will* and the enclitic '*ll*, are summarized in Table 4.34.

Table 4.34 Evidence for Set 1 (*will*) & Set 2 (*'ll*) Additional Hypothesis

Enhanced vs. Control					
	Set 1		Set 2		
Test time	GJT	RT	GJT	RT	
Pretest	H0	H0	H0	H0	H0: groups have equal knowledge ($M_E = M_C$) against H1: knowledge is different ($M_E \neq M_C$)
Post-test	H1	H1	H1	H1	H0: groups have equal knowledge ($M_E = M_C$) against H1: knowledge is different ($M_E \neq M_C$)
Delayed Post-test	H1	H0	H1	H1	H0: groups have equal knowledge ($M_E = M_C$) against H1: knowledge is different ($M_E \neq M_C$)

Enhanced					
	Set 1		Set 2		
Test period	GJT	RT	GJT	RT	
Pretest — Post-test	H1	H1	H1	H1	H0: treatment does not work ($M_P = M_0$) against H1: treatment works ($M_P > M_0$)
Post-test — Delayed Post-test	H0	H0	H1	H1	H0: knowledge did not change ($M_D = M_P$) against H1: knowledge decreased ($M_D < M_P$)
Pretest — Delayed Post-test	H1	H1	H1	H1	H0: treatment does not work after 3 weeks ($M_D = M_0$) against H1: treatment works ($M_D > M_0$)

Significance level for hypotheses is .05 (5%)

H0 = Null Hypothesis
H1 = Research Hypothesis
M_E= Enhanced group Mean
M_C = Control Group Mean
M_0 = Pretest Mean
M_P = Post-test Mean
M_D = Delayed Post-test Mean

As shown in Table 4.34, text enhancement was effective in allowing the participants to improve their metalinguistic knowledge of both, the free morpheme *will* (GJT Set 1) and the cliticized '*ll* (Set 2). However, the progress evident at the delayed post-test three weeks following the completion of the treatment was maintained at the same level as that of the immediate post-test only by GJT Set 1, whereas GJT Set 2 demonstrated a decrease in the acquired metalinguistic knowledge. Thus, the GJT results reported above support the Additional Hypothesis that text enhancement would have different affects on participants' noticing the free morpheme *will* and the enclitic '*ll* and that the effect would be in favor of the free morpheme.

With regards to the RT, the Additional Hypothesis was not supported since text enhancement was ineffective in allowing the participants to better notice the free morpheme *will*. On the contrary, the effect of text enhancement was in favor of the cliticized morpheme '*ll*, as demonstrated by the statistical analyses of the RT Set 1 and Set 2 results. In other words, text enhancement was effective in allowing the participants to better notice perceptually the cliticized morpheme '*ll* rather than the free morpheme *will.* The implications of this observation will be considered in Chapter 5.

4.4.2 Acquisition Results

As evident from the analyses of the subjects' performance on the two tasks that measured acquisition of 3PS, the Enhanced group outperformed the Control group on the picture description task (PDT) and thus demonstrated that text enhancement was effective in allowing the participants to use 3PS in oral production while describing pictures. At the same time, the two groups did not differ on the free response task (FRT) and thus demonstrated that textual enhancement was ineffective in assisting the learners to use the target feature in free unguided speech. In spite of some progress between the FRT pretest and post-test, the Enhanced group participants failed to distinguish themselves from the Control group participants on the FRT delayed post-test. In other words, Enhanced group participants demonstrated a more accurate ability to produce the target feature in a controlled context, as measured by the PDT but failed to demonstrate any improvement on the production of the target feature during less constrained meaningful communication as measured by the FRT.

As evident from the analyses of the subjects' performance on the two tasks that measured acquisition of *will*-future, the Enhanced group outperformed the Control group on both tasks that measure acquisition, the picture description and free response tasks. Moreover, the facilitative effect of text enhancement did not decrease at the delayed post-test three weeks following the completion of the treatment, as evidenced from the comparison of the Enhanced *will*-future post-test and delayed post-test means on the picture description task ($F_{1,\,34} = 2.58$; $p = .12$) and the free response task ($F_{1,\,34} = 17.47$, $p = .0002$).

As evident from the results of the two experiments, the facilitative effect of text enhancement on 3PS picture description task and on *will*-future picture description and free response tasks did hold for three weeks after the termination of treatment and thus supports Hypothesis C.

4.4.3 Summary of Evidence for Hypothesis D

Hypothesis D predicted that learners who received enhanced input of the free morpheme *will* would demonstrate a more accurate ability to notice and produce the target feature than learners who received enhanced input of the bound morpheme 3PS. This hypothesis was supported by the results of the statistical analyses presented earlier. However, it should be noted again that even though text enhancement revealed some positive results, none of the subjects demonstrated 90% acquisition of either of the target form (3PS or *will*-future) at delayed post-test, and consequently, there was no acquisition per se, as measured by the PDT or FRT in either experiment.

4.5 Summary of Chapter 4

The results of the statistical analyses conducted on the data obtained from the participants during the present investigation revealed the following:

Hypothesis A *Learners who receive enhanced input of 3PS will demonstrate a more accurate ability to notice and produce this target feature than learners who receive unenhanced input*: Partially supported.

Learners exposed to the visually enhanced 3PS showed a statistically significant main effect for instruction on reading and picture description tasks. Learners exposed to visually enhanced 3PS did not show a statistically significant main effect for instruction on grammaticality judgment and free response tasks.

Hypothesis B *Learners who receive enhanced input of* will-*future, will demonstrate a more accurate ability to notice and produce this target feature than learners who receive unenhanced input*: Supported.

Learners exposed to the visually enhanced target feature *will*-future showed a statistically significant main effect for instruction on all four tasks that measured noticing and acquisition.

Hypothesis C *The effect of text enhancement will hold over a long period of time (three weeks after the treatment)*: Partially supported.

Learners exposed to the visually enhanced 3PS showed a statistically significant main effect for time on reading and picture description tasks. However, there was no effect for time on the 3PS grammaticality judgment task and the effect for time did not hold on the 3PS free response task. Learners exposed to visually enhanced *will*-future showed a statistically significant main effect for time on all four tasks.

Hypothesis D *Learners who receive enhanced input of* will-*future, will demonstrate a more accurate ability to notice and produce the target feature than learners who receive enhanced input of 3PS*: Supported.

Learners exposed to the visually enhanced *will*-future performed better than learners exposed to visually enhanced 3PS.

This chapter has examined the assessment data in light of the hypotheses proposed in this study. The subjects' performances were presented and any observed differences were statistically analyzed in order to test the hypotheses proposed in this study. The analyses reported in this chapter show that the predicted advantage for textual enhancement was only partially supported.

The next and final chapter of this dissertation will explore the findings of the present study in an integrated manner, drawing and expanding on the theoretical underpinnings of the previous empirical research examined in the first three chapters.

Notes for Chapter 4

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1 Clitic is a form “which resembles a word, but which cannot stand on its own as a normal utterance, being phonologically dependent upon a neighboring word (its host) in a construction (Crystal, 2003b, p. 76).”

2 The ambivalence in the status of clitics that is primarily related to the question whether clitics should be treated as suffixes or as free syntactic forms (Van Riemsdijk, 1999) led the researcher to hypothesize along these lines.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

5.0 Introduction

The purpose of this chapter is (1) to discuss the major findings of the study in light of previous related research, (2) to present possible implications for the theory and practice of language learning, (3) to discuss the limitations of this study, and (4) to explore avenues for future research.

The five major findings evident in this research can be summarized as follows:

(1) Textual enhancement did not improve the participants' metalinguistic knowledge of 3PS, but it did improve their metalinguistic knowledge of *will*-future, as measured by grammaticality judgment tasks;

(2) Textual enhancement promoted perceptual noticing of both target features, 3PS and *will*-future, as measured by reading tasks;

(3) Textual enhancement promoted the acquisition of both targeted features in a constrained environment, as measured by picture description tasks, although it positively affected only the acquisition of *will*-future and did not affect the acquisition of 3PS in a less constrained environment, as measured by free response tasks;

(4) The present study found a weak relationship between noticing the targeted grammatical forms and acquiring them;

(5) Textual enhancement did not affect acquisition per se since the acquisition criterion of 90% set at the beginning of the study was not met by any subject.

5.1 Discussion of Findings

As indicated in Chapters 1 and 2, input is a crucial variable in SLA and a number of SLA researchers (Gass, 1997; Gass & Selinker, 1994; Sharwood Smith, 1991; VanPatten & Cadierno, 1993, among others) have pointed out that for input to become intake, learners must attend to meaning as well as to linguistic features. This dual requirement of processing input imposes excessively large demands on L2 learners' attention capacity (VanPatten, 1990) and different input enhancement techniques have been utilized to reduce these demands and to help learners attend to and make use of the input available to them.

The results of previous research (Doughty, 1991; Jourdenais et al., 1995; Leeman et al., 1995; Shook, 1994; Williams, 1999) and VanPatten's (1996, 2004) model of input processing[1] suggested the need to visually enhance two linguistic features (3PS and *will*-future) to make them more salient and to increase the likelihood that learners would pay attention to them and assimilate these features into their developing linguistic systems.

5.1.1 The Effect of Text Enhancement on Noticing 3PS and *will*-future

"Noticing" in the current study was measured by two tasks, a grammaticality judgment task (GJT) that assessed how the participants noticed the target form metalinguistically, and a reading task (RT) that assessed how they noticed the target form perceptually. The 3PS grammaticality judgment task data provided no evidence to suggest that text enhancement allowed the participants to better notice 3PS. At the same time, the *will*-future grammaticality judgment task data revealed statistically significant results which demonstrated that the Enhanced group participants improved their metalinguistic knowledge of the target feature. The 3PS and *will*-future reading-task data provided evidence to suggest that text enhancement allowed the participants to better notice both target features (the word-final bound consonant -*s* and the free syllabic *will*) perceptually.

These results comply with findings by other researchers (Gass, 1997; Leeman, 2003; Sharwood Smith, 1991) who claim that perceptual salience does play a role in language development but who suggest that learners do not pay attention to all salient forms and that there is no guarantee that all L2 learners will internalize enhanced input since attention is assumed to depend on a wide range of factors including the target forms themselves, learners' prior knowledge, and individual idiosyncrasies, among others. Thus, a combination of different factors might have affected the way in which the current study participants processed the enhanced input and demonstrated statistically non-significant results on 3PS GJT and statistically significant results on *will*-future GJT.

These results also adhere to VanPatten's (2000) taxonomy of featural communicative value, according to which English bound 3PS has a [+redundant] feature while free morpheme *will* has a [-redundant] feature and both target forms have [+inherent semantic value] feature. This featural distribution implies that 3PS has a lower communicative value than *will* and is consequently less salient and less likely to be processed, and, therefore, more difficult to learn (Sato, 1986).

It can be argued, however, that both 3PS and *will*-future are communicatively redundant in the GJT contexts of the current study since half of the sentences that required 3PS in Experiment 1 and all sentences that required *will*-future in Experiment 2 contained lexical markers (adverbials and noun phrases) that carried the same temporal information as the target features. For example, in the sentence *Ernie gets into his mail truck every day*, temporality is expressed through the NP *every day* and the verbal marker, 3PS. In this example, 3PS contains a [+inherent semantic value] feature in that it encodes present tense and a [+redundant] feature in that present tense is also expressed lexically by an adverbial phrase *every day*. If the NP were not present in the utterance, the "inherently" redundant 3PS (Ellis, 2001) would still have had the [+redundant] feature in that the subject *Ernie* carried the same person and number information as 3PS. In other words, the absence or presence of a temporal NP does not affect the communicative value of the bound morpheme 3PS.

In case of *will*, the sentence *Ernie will wake up very early tomorrow* also contains two temporal references, the adverbial *tomorrow* and the verbal marker *will,* where the latter contains a [+inherent semantic value] feature in that it encodes futurity and a [+redundant] feature in that futurity is also expressed lexically by *tomorrow*. However, if the adverbial *tomorrow* were not present in the utterance the communicative value of the free morpheme *will* would have increased since it would have had a [-redundant] feature. The 3PS and *will* GJT examples illustrate that communicative value is not absolute for some forms since the presence or absence of temporal lexical markers is one factor that determines whether verbal morphology is [±redundant], thereby assisting or hindering learners in building and testing their hypotheses. It should be noted, however, that participants in the present study had to judge the grammaticality of unrelated sentences. Consequently, it would have been pointless to remove temporal lexical markers from the grammaticality judgment tasks since the participants would have been unaware of the time reference that required their judgment.

Following Cook (1991, 1993), learner familiarity with the target forms may have allowed the participants to understand (decode) sentences containing the target forms even though most had not yet worked out the underlying rules. That is, since the subjects in this study had been exposed to the target language over a long period of time prior to the experiment, they were able to extract propositional meaning of each 3PS GJT sentence without the target feature, a fact that explains their lack of improvement on this task.

In line with VanPatten's Principle 1 of input processing (1996, 2004), learners prefer to focus attention on lexical items to extract semantic information such as temporal reference rather than rely on the same semantic information encoded in verbal morphology. Thus, lexical items suggesting present simple were presumably processed while 3PS was not since it remained perceptually non-salient due to the fact that it did not provide the utterance semantic information unavailable elsewhere. As for *will*-future, it is not clear whether the target feature itself or temporal lexical items guided the participants' judgment of grammaticality. The presence of future reference lexical markers, however, did not seem to interfere with the processing of *will* even though the latter provided the utterance with semantic information available elsewhere. As suggested by Bardovi-Harlig (2004a), it is likely that L2 learners perceived *will* as a lexical[2] rather than a grammatical item.

Although the lexical interpretation of *will* is plausible, there may be other reasons why text enhancement improved participants' metalinguistic knowledge of *will*-future but failed to affect their 3PS. Since the study controlled for L1 (all participants were Haitian

Creole speakers), L1 interference may have been another factor at play, even though, according to Bardovi-Harlig (1997, 2000), first language does not seem to be an obvious influence on temporal marking, as the target language exerts a much greater influence in the acquisition of verbal morphology than learners' L1. In this study, the participants could have failed to make the necessary connections between the English verbal morphological feature 3PS and the third-person present tense agreement due to the fact that verbal morphology is nonexistent in Haitian Creole (see more on Haitian Creole in Chapter 3). At the same time, they were able to establish relations between future time reference and its overt representation, *will*-future (both *will* and '*ll)*. It is possible that in this case the participants' L1 assisted them in adjusting their L2 metalinguistic knowledge given that Haitian Creole is an SVO language which utilizes a system of markers placed before the verb and after the subject to express futurity (Lefebvre, 1998).

Additional GJT analyses of the cliticized manifestation of *will*-future ('*ll*) demonstrated that text enhancement was effective in improving the participants' metalinguistic knowledge of the clitic even though it is unstressed, monosyllabic, and hence non-salient and difficult to notice per VanPatten's principles of input processing (1995, 1996, 2004). Moreover, *will*-future RT additional analyses demonstrated that text enhancement helped the learners better notice the artificially enhanced clitic '*ll* and not the free morpheme *will*, which was perceptually noticed even without enhancement[3]. These findings address the issue of the ambivalent status of clitics (Van Riemsdijk, 1999) primarily related to the question of how they should be treated. The fact that the participants demonstrated statistically significant improvement on the '*ll* GJT ($p < .0001$) seems to provide more support to those who claim that clitics should be treated more like free and not bound morphemes since they are processed like the former. The finding that text enhancement was as effective as no enhancement at all for participants to notice the perceptually salient free morpheme *will* (p = .19 at delayed post-test) provides further support to the previously stated idea that this free morpheme may be processed as a lexical item and is consequently perceptually salient enough to be noticed without enhancement (Bardovi-Harlig, 2004a).

In sum, the results of the two experiments on "noticing" demonstrated that text enhancement assisted the L1 Haitian Creole speakers participating in this study in the improvement of their metalinguistic knowledge of the salient and communicatively effective free morpheme *will*-future, a feature that has similar representation in the learners' L1. However, it did not affect the metalinguistic knowledge of the more complex, less salient, and less communicatively effective bound 3PS, a feature that has no similar representation in the learners' L1. Additionally, text enhancement helped the participants to notice both targeted L2 grammatical forms perceptually while reading.

Correlational analyses which revealed very weak relations between the two tasks that measured 3PS noticing (r = .116) and the two tasks that measured *will*-future noticing (r = -.141) made it clear that noticing a target feature perceptually does not imply that this feature will be noticed metalinguistically and vice versa.

5.1.2 The Effect of Text Enhancement on 3PS and *will*-future Acquisition

As described in Chapter 2, acquisition, the development of an implicit linguistic system that consists of phonological, morphological, syntactic, semantic, pragmatic, and other aspects of language, is a complex set of processes which includes input processing, accommodation, and restructuring. Research has demonstrated that drawing learners' attention to a grammatical form by means of instruction within a meaning-based communicative context facilitates L2 learners' performance (Ellis, 1995; Norris & Ortega, 2000; Spada, 1997) which in turn results in the acquisition of the forms in focus.

In this study, textual enhancement of the targeted grammatical forms seemed to have helped the participants improve their 3PS acquisition scores as measured by the picture description task (PDT) but failed to help them improve their 3PS acquisition scores as measured by the free response task (FRT). As for *will*-future, textual enhancement appeared to have resulted in the improvement of participants' acquisition scores as measured by both the picture description and free response tasks.

The picture description tasks provided the subjects with an opportunity for personal expression and interpretation in a controlled environment without imposing additional demands on creativity on their part, which could have affected their working memory capacity given that pictures and temporal adverbial and noun phrases (*Every day/Every Sunday* for 3PS and *Tomorrow/Next Sunday* for *will*-future) guided their production. On the free response tasks, however, the participants were free to create their own contexts without controlled opportunities for target features production, a fact that could have negatively influenced their working memory capacity and that, in turn, could have accounted for the lack of improvement on the production of 3PS, a less salient and more complex feature than *will*-future.

5.2. Reexamination of Acquisition Results within Minimalist Approach

Despite the statistically significant results on the 3PS PDT and *will*-future PDT and FRT, there was no acquisition per se since no subjects demonstrated 90% acquisition of either target form at delayed post-test. The L1 Haitian Creole speakers had failed to acquire the target features via naturalistic input over a long period of time (14.9 years mean length of residence as reflected in Table 3.4) and even artificial enhancement of either 3PS or *will*-future did not assist these learners in acquiring these features as demonstrated by their production data — they used inflectionless thematic verbs in present simple third-person singular and *will*-less verbs in reference to the future. In other words, in line with Izumi (2002) and Wong (2001), among others, directing learner attention to grammatical forms did not promote the acquisition of these forms even though there was a statistically significant effect for text enhancement.

The attempts to explain the results of the current study from the perspective of Gass's (1997) integrated model of SLA or VanPatten's (1995, 1996, 2004) theory of input processing do not provide an adequate explanation of why L2 learners experience acquisition problems with verbal grammatical features, 3PS and *will*-future, in particular. Since both theories are grounded in the principles of UG, this study has aimed at explaining the results within this linguistic approach.

The two main positions to account for this phenomenon within the generative grammar framework are impairment (Beck, 1998; Eubank, 1994; Meisel, 1997) and missing surface inflection (Herschensohn, 2001; Lardiere, 2000; Prévost & White, 2000). The former view attributes L2 learners' use of nonfinite verbs in place of finites to an impairment or underspecification of functional categories and/or features in L2 grammar while the latter argues that L2 learners have abstract features for finiteness and agreement in their IL representation and that the problem lies in mapping these abstract features to the corresponding surface morphology.

Several recent studies on tense and agreement morphology in L2 English demonstrated great variability in suppliance of auxiliaries and inflections in spontaneous production. Most of these studies have focused on learners who are still in the course of L2 acquisition (Haznedar, 2001; Ionin & Wexler, 2002; Prévost & White, 2000) while two known longitudinal case studies reveal that variable use of verbal morphology is characteristic of at least some endstate grammars as well (Lardiere, 1998a, 1998b; White, 2002).

Lardiere (1998a, 1998b), for example, provides a detailed case study of Patty, an adult Chinese L1 speaker of English, whose spontaneous production data, gathered after she had lived in the United States for almost 19 years, demonstrate that incidence of overt tense and agreement morphology is very low. White (2002) provides a detailed case study of SD, a female Turkish L1 speaker (aged 50 at the time of testing) who had been exposed to English for over 10 years. Even though SD's suppliance of agreement and tense on lexical verbs was much higher than that of Patty's, it was still divergent. Patty's use of 3PS was particularly impoverished, often totally absent. SD's suppliance of agreement and tense on lexical verbs was also divergent though attaining much higher levels than those of Patty. On the other hand, both, Patty and SD, demonstrated full command of a variety of syntactic phenomena which implicate tense and agreement, such as overt subjects, nominative subject case assignment, lack of verb raising over negation and adverbs, and appropriate accusative pronouns in non-nominative contexts. According to White, this "unconscious knowledge" of numerous syntactic requirements of English suggests that "uninflected forms are in fact finite" (p. 764) even though agreement and tense are not marked overtly. Consequently, White (2002) and Lardiere (1998a, 1998b) ascribe the omission of inflections in SD and Patty' s spontaneous speech to the problems of realizing surface morphology rather than to feature impairment since the variability in the domain of inflectional morphology contrasts with overt representation of other related syntactic properties. Furthermore, White attributes difficulties with morphological representation not only to the mapping problem but to L1 effects as well since SD, a speaker of a language with rich inflection, did much better on inflectional morphology than Patty, a speaker of a language that lacks inflection.

In line with White (2002) and Lardiere (1998a, 1998b), the L1 grammar of the 36 Haitian Creole speakers who participated in Experiment 1 might have prevented them from acquiring one relevant property of the L2, the 3PS agreement marker, since Haitian Creole has no subject/verb agreement markers for person or for number and no affixes encoding tense, mood, or aspect. In this case, 3PS acquisition results suggest that properties of the L1 grammar might have prevented the participants from noticing the mismatch between the L2 manifestation of agreement and their own L2 output so that even enhanced positive input did not motivate restructuring (Leeman, 2003; Sharwood Smith, 1991).

However, as mentioned earlier, Haitian Creole temporal relationships, mood, and aspect are encoded by means of markers placed before the verb and after the subject. Thus, as was expected, L1 should have assisted the participants in the acquisition of *will*-future since Haitian Creole has preverbal particles that mark future time (the definite future marker *ap* and the indefinite future marker *a-va*). The participants did demonstrate significant improvement on both tasks that measured acquisition of *will*-future. However, no subject reached the 90% acquisition criterion[4]. All participants demonstrated the same acquisition pattern (lack of acquisition, to be exact).

Thus, the omission of both target features in the oral production of the Haitian Creole speakers participating in this study cannot be explained by L1 influence alone and a possible explanation may be lack of access to certain computational or representational components of UG. In other words, the omission of 3PS and *will*-future may reflect feature impairment or underspecification per Beck's 1998 Local Impairment Hypothesis (LIH). According to LIH, the abstract verbal tense feature [-past], the φ-features [singular number] and [3 person], and the [mood] feature are permanently impaired and consequently, there is no development in the domain of verbal morphology. However, even though the current study participants failed to demonstrate acquisition of either 3PS or *will*, statistically significant improvement on 3PS PDT, *will*-future PDT and *will*-future FRT provide evidence for some development in this domain.

In this case, the problem may lie in mapping the abstract verbal features to the corresponding surface morphology per Prévost and White's (2000) Missing Surface Inflection Hypothesis (MSIH); that is, even though main verbs failed to overtly demonstrate the abstract verbal features [-past] and the φ-features [singular number] and [3 person] in Experiment 1 (3PS) and they failed to overtly demonstrate the abstract verbal features [-past] and [mood] in Experiment 2 (*will*), they were nonetheless finite. While orally produced utterances in the picture description and free response tasks reflected absence of the morphological realization of functional categories, the participants demonstrated full command of other related syntactic phenomena: 100%

accuracy in nominative case assignment[5], as in (1a), 100% in accusative assignment, as in (1b), when possessive determiners were used, they were utilized appropriately, as in (1c).

(1) a *She take mah car||*
He play ah music at fie||
She migh' call somebody||
I'm come back home twelve||
She will cook||
Tomorrow| I get up ten||

b *He's likes her||*
An' her husban' call me||
I'm not goin' to call dem||

c *He read his newspaper||*
He will goin' to his churt||
Jan's reads her newspaper at ten o'clock||

These data suggest that the participants' IL grammars are not "wild" and conform to the principles of UG. Thus, it can be argued that the nature of the lack of overt agreement and overt future marking is computational rather than representational. This position should be considered with caution since the study controlled only for affirmative sentences and no utterances demonstrated lack of verb raising over negation and adverbs (affixal INFL in English is weak and overt V movement does not take place), the syntactic phenomena that allowed Lardier (1998a, 1998b) and White (2002) to make strong cases in favor of MSIH. Moreover, not all utterances contained overt subjects, as in (2a) and prepositions were absent in many cases, as in (2b).

(2) a *Cook||*
Work||

b *He get up seven||*
Twelve| he pray||
I go churt twelve noon||

If it is UG impairment that disallows the extralinguistic processes to concatenate verbal stems and morphology (bound or free) and draw them from the lexicon, the Local Impairment Hypothesis (Beck, 1998) might be a potential explanation of the 3PS and *will*-future omission. If the participants in this study have unconscious knowledge of features underlying Tense, Mood, and Agreement and, consequently, represent these features at an abstract level, the Missing Surface Inflection Hypothesis (Prévost & White, 2000) might possibly explain the absence of the English 3PS and *will*-future markers. If L1 interference were responsible for the subjects' omission of an overt morphological form that had no representation in their L1 (3PS) and there was a computational problem in identifying the morphological realization of functional categories, one must ask why input enhancement failed to help Haitian Creole speakers acquire the L2 free grammatical morpheme that had similar representation in their L1 (*will*). If impairment were the problem, the question arises why there was some development in terms of both competence and performance, especially with regards to *will*-future. The design of the current study and the analyzed data cannot support or refute either hypotheses, and therefore further research is needed.

Some researchers (Bialystok, 1997; Kellerman, 1995) argue that the relationship between L1 and L2 may be responsible for the manner in which age[6] of acquisition affects L2 learning. Assuming that reliance upon L1 is an important part of L2 acquisition, both Bialystok and Kellerman claim that there is an interaction between L1 and L2 features and age of acquisition, such that after a certain age learners who attempt to acquire some features of their L2 that have no L1 equivalents may never do. Features of the L2 which have clear L1 analogues can be acquired regardless of the onset age of learning. However, Kellerman leaves open the upper boundary for the acquisition of those L2 features that have no equivalent in L1 even though he takes into account the importance of the L1 in L2 acquisition process. The results of this study suggest that there was some effect of the participants' L1 in the acquisition of the two grammatical features explored. Yet, it is equally evident that the nature of the L1 itself can neither fully explain the difficulties of these adult learners nor answer the question of why the functional heads end up with unchecked features.

5.3 Implications for L2 Pedagogy

The results of the current study are consistent with the claim that formal instruction has positive effects on SLA processes (Long, 1983; Noris & Ortega, 2000; Pienemann, 1987, 1989). Moreover, this study agrees with previous research on FonF instruction and provides additional empirical evidence to demonstrate that it is beneficial for L2 learners. Since a common concern in the classroom is to identify among various types of FonF instruction the ones that are of potential value in promoting SLA, the finding that enhancing a grammatical feature that learners need to learn aided noticing suggests that this technique can be explored in the classroom to draw learner attention to problematic target features. Given that not all forms are equal in terms of the applicability and effectiveness of FonF instruction (Williams & Evans, 1998) and since the natural order of developmental sequences of L2 acquisition cannot be changed by instruction (Pienemann, 1984), any formal instruction (implicit or explicit) is irrelevant unless the learners are at the right stage of IL development. At the same time, research has demonstrated that instruction can improve the speed and frequency of the acquisition of grammar-instructed forms and that instruction is important in order to avert fossilization of simplified forms in the learner's IL (Pienemann, 1984, 1987, 1989). Thus, the choice of instructional intervention should take into account the differing circumstances under which SLA takes place, namely the learner population, the learning context, the learners' L1, and the linguistic feature, all of which may affect decisions regarding the type of instruction.

The results of the present study and the acquisition data in particular suggest that language teachers would benefit from a better understanding of untutored adult SLA processes. The more language teachers and curriculum developers understand the processes, learning constrains, and learning universals that accompany untutored adult second language acquisition, the more insightful and learner-centered their classroom instruction and materials can become.

5.4 Methodological Limitations and Caveats of the Study

The present investigation was constrained by a number of methodological limitations. First, the results and conclusions of this study were based on a limited sample of subjects; therefore, any generalizations about the findings from the study must be made with caution and are in need of further confirmation.

Second, the advantages of limiting data collection to a homogenous L1 population and conducting one-on-one testing and treatment in non-classroom environment were offset by the potential disadvantage that it was practically impossible to reach out to such a large number of subjects over a longer period of time. Thus, the effects of instruction were not tested beyond a three-week period, and any claims about a truly long-term effect of instruction are relatively weakened. It would have been ideal to test the subjects knowledge of 3PS and *will*-future over a longer period of time.

Third, the treatment was very short, consisting of one intense session. Considering that SLA is a very slow and laborious process (Ellis, 1993), brief classroom exposure to the targeted linguistic elements which the participants had failed to acquire during their extended naturalistic exposure to the target language may not be adequate to induce the desired effects, which may partially explain why textual manipulation of the input data in this study was ineffective in facilitating learning.

A fourth limitation involves an important variable that is not measured or controlled—the participants' L2 reading comprehension. Even though the participants demonstrated understanding of all reading materials by using proper paralinguistic cues while reading (pauses, intonation) and personal comments upon completion of the tasks (e.g., *Nice story*||), the current results cannot invalidate the position that attention to meaning competes with attention to form during input processing, a position put forth in VanPatten's (1996, 2004) model of input processing.

Another limitation of this study is that learners were only exposed to affirmative constructions for both 3PS and *will*-future target features and not to full range of 3PS phonological environment since only regular verbs in the indicative mood were used while copula *is*, irregular *has* and *does*, and verbs ending in sibilant sounds were not included in either treatment or instruments implemented in Experiment 1 (3PS). Several studies in L2 phonology (Dickerson, 1975; Kato, Adamson, Unenaka, Stauffer, & Chu, 1999/2000; Young, 1991) have demonstrated that linguistic environment has a major effect on the production of /z/ and /s/ in Japanese-English and Chinese-English IL in that sibilants preceding *s* seem to be the most unfavorable phonological environment for plural marking, while both preceding and following vowels favor *s*-marking. In addition, Long (2003) who briefly reports on his 16-year study of Ayako, a Japanese woman who immigrated to Hawaii in 1948 when she was only twenty-two, also suggests that phonological reasons can partly account for Ayako's varied plural *s*-marking in obligatory contexts in free conversation: nouns ending with /t/ or /d/ tended to be *s*-marked, while nouns ending with sibilants were lacking *s*-marking. Thus, phonological environment of the production data is another issue that has not been explored in the current study and needs further investigation. It is possible that had the learners been exposed to all possible usages of the target features, they might have been able to observe the pattern more clearly. In addition, the only production mode investigated in this research was oral. Written production data may yield different results regarding 3PS and *will*-future use and should certainly be examined.

Finally, the design of the current study and the analyzed data cannot provide an answer to whether it is UG impairment that disallows the extralinguistic processes to concatenate verbal stems and morphology and draw them from the lexicon per Local Impairment Hypothesis (Beck, 1998) or whether the participants have unconscious knowledge of features underlying tense, mood and agreement and, consequently, represent these features at an abstract level per Missing Surface Inflection Hypothesis (Prévost & White, 2000), a question that calls for further research.

5.5 Contribution and Implications for Future Research

The results of this study have made an important contribution to SLA research investigating the effects of implicit instruction on the "noticing" and acquisition of 3PS and *will*-future in the following ways. Prior to this study, the acquisition of these two grammatical features had not been empirically validated with homogenous L1 nonacademic adult learners. Despite its aforementioned limitations, the results of this study are significant and resilient enough to warrant further investigation of the potential efficacy, durability, and force of approach used in this study on a wider variety of linguistic features (e.g., modals or past tense *–ed*) and with different types of learners (e.g., ESL speakers with other L1 background whose omission of 3PS and *will*-future has become fossilized). The direction of future research might be to compile a list of other linguistic features that are amenable to this pedagogical intervention to fill the void that presently exists in ESL pedagogy and to expand on and broaden the scope of this study.

In addition, the results call into question the assumption that if target features are implicitly enhanced in the input, learners will notice them. Indeed, this study suggests that getting adult learners to notice target features may not be enough for their acquisition. Since the basic view is that language proficiency comprises a number of separate skills which must be developed and combined in order to exhibit language mastery in different situations, and that the nature of these skills may be expressed both in terms of explicit analyzed control over linguistic structures and fluent automatic access to the information one has about the language, it is erroneous to assume that the demonstration of proficiency in one situation indicates proficiency in other situations, or as Bialystok (1981, p. 43) observes, “Knowing a form, we claim, does not assure that the form will be used in free situations.”

The research has also pointed to the necessity for long-term follow–up testing in research investigating the effects of instruction on SLA. If the present study had not included a delayed post-test, the pattern of the acquired knowledge decline could have been missed and wrong conclusions regarding the role of text enhancement on noticing and acquisition of the target features could have been drawn–conclusions which have been obtained in other studies without long-term follow-up testing in the research designs (e.g., Alanen, 1995; Doughty, 1991).

It is well documented that L2 learners have limited knowledge of grammatical devices in the early stages of IL development (Meisel, Clashen, & Pienemann, 1981; Perdue, 1984, 1993). Clearly, more research is needed to understand whether and how implicit input enhancement techniques might contribute to L2 learners' acquisition of particular linguistic features. It is crucial to take the nature of the linguistic feature into account before advocating one particular type of FonF instruction over another. Findings from this study suggest that learners may benefit from help in noticing information available in the input when their L1 leads them to make faulty hypotheses about the TL.

5.6 Conclusion

This study was designed to investigate the effect of text enhancement on learner attention to and subsequent acquisition of English 3PS and *will*-future. In line with the theories of input, an examination of the results of this study lends support for the effectiveness of this implicit method of input enhancement to help learners attend to the targeted forms and to incorporate these features into their developing IL. However, this study shows little support for the effectiveness of text enhancement as a type of focus-on-form technique that can assist learners in acquiring L2 morphological features and linking them to the corresponding functional categories – the linguistic phenomena which they failed to acquire in a naturalistic environment over a long period of exposure to the target language. The effectiveness of the text enhancement technique was not sufficient enough to allow the Haitian Creole learners who participated in the current research to demonstrate 90% acquisition of the target form, the criterion set at the beginning of the study.

While these findings contrast with those of earlier studies utilizing textual enhancement (Doughty, 1991; Jourdenais et al, 1995; Leeman et al., 1995; Williams, 1999), it is important to mention the difference between this study and other research.

First, four different measures were utilized to answer the research questions of this study: while two tasks (the reading task and the grammaticality judgment task) specifically focused on “noticing” the target features, the other two tasks (the picture description task and the free response task) addressed the production of the target forms. Since very weak correlations were found among all four tasks and no statistically significant results were obtained to demonstrate the relationship between noticing the target features and subsequently acquiring them, there is a concern regarding the issue of the relationship between noticing and learning. It is possible that the relationship between the two is not as direct as may be generally assumed in the SLA literature and that noticing target features does not necessarily lead to their acquisition.

Second, the subjects of this study were freely producing narrative discourse in contrast to discrete words and isolated sentences in other text enhancement studies (e.g., Alanen, 1995; Jourdenais et al., 1995; Leow, 1997). Thus, in this study the participants’ attention was divided among many factors, such as providing information/narration itself, word choice, syntax, as well as morphological forms. Bialystok (1994) has argued that the basis of fluency is the ability to focus attention on relevant parts of a problem, an ability that develops as the result of age, experience, practice, and bilingualism.

Third, this study targeted forms that were already part of the learners' developing IL systems. Thus, rather than to introduce new forms to the learners (as, for example, did Alanen, 1995; Leow, 1997; Shook, 1994), the goal of this study was to create a change in the learners' existing linguistic systems. This may have been a task beyond the limits of an experimental non-longtitudinal investigation.

As mentioned earlier, researchers demonstrated that drawing learner attention to specific linguistic features may not be uniformly effective for all aspects of language (de Graaff, 1997; DeKeyser, 1995; Hulstijn & de Graaff, 1994). Gass (1997), who argues against the principle that all L2 learning requires attention, attributes some learning to UG, though warning that her arguments are not intended to weaken the claim that attention is important, merely to show that attention is not the only factor.

Notes for Chapter 5

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1 As discussed in Chapters 1 and 2, VanPatten's model of input processing predicts that forms like 3PS which play no importance in determining the propositional content of the input are the most difficult to acquire and that the learners need assistance in noticing these kinds of forms.

2 The researcher offers three facts that lead to this suggestion: (1) it is a free morpheme; (2) it virtually lacks variants; (3) it emerges much earlier than the morphological futures in other languages.

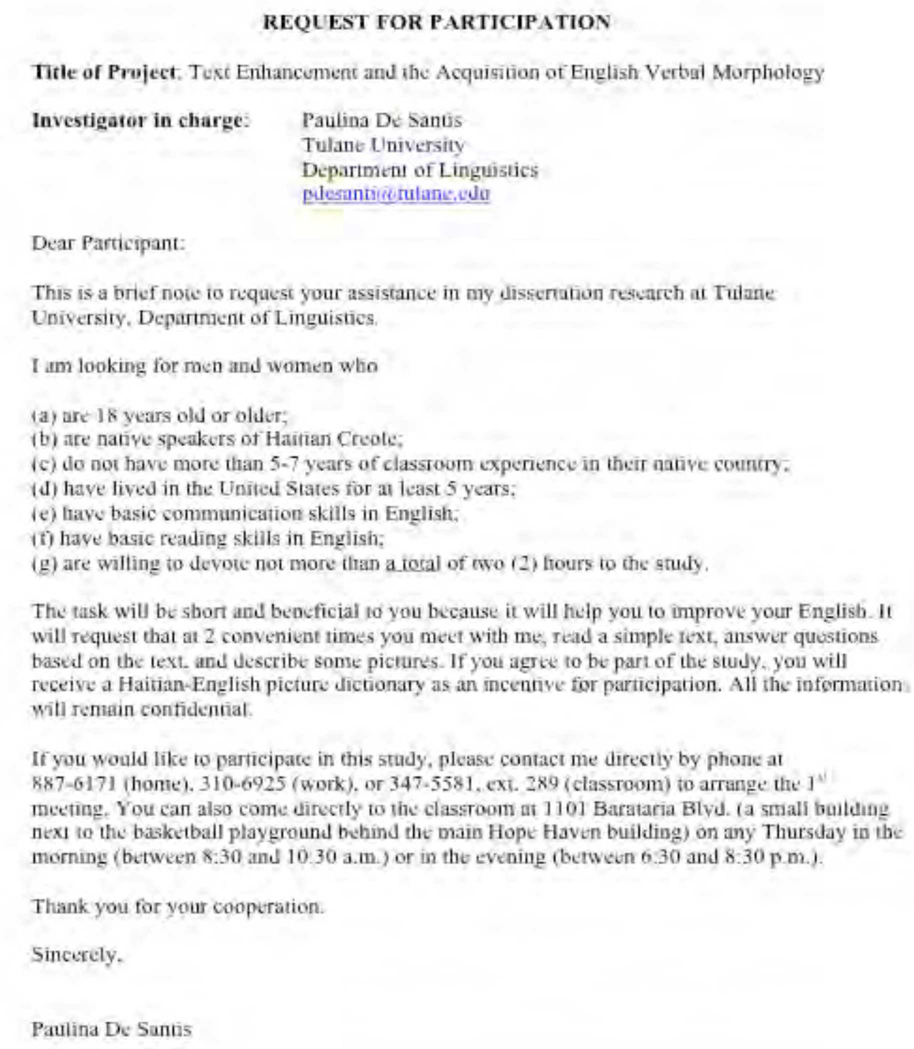
3 As demonstrated by the results of Additional Hypothesis, there was no difference between the Control and Enhanced Set 1 (full *will*) at delayed posttest.

4 90% may seem too high for an acquisition criterion. However, the highest acquisition scores on delayed posttests were 8% on 3PS PDT, 30% on *will*-future PDT, 13% on 3PS FRT, and 29% on *will*-future FRT.

5 Nominative case assignment – an unvalued case feature on a goal is valued as nominative by a probe carrying finite tense if probe and goal match in φ-features (in person & in number).

6 More on age and SLA see Curtiss, 1988; Cenoz, 2003; Marinova-Todd, 2003; Newport, 1984; Singleton, 2003.

Appendix A: Request for Participation



REQUEST FOR PARTICIPATION

Title of Project: Text Enhancement and the Acquisition of English Verbal Morphology

Investigator in charge: Paulina De Santis
Tulane University
Department of Linguistics
pdesanti@tulane.edu

Dear Participant:

This is a brief note to request your assistance in my dissertation research at Tulane University, Department of Linguistics.

I am looking for men and women who

(a) are 18 years old or older;
(b) are native speakers of Haitian Creole;
(c) do not have more than 5-7 years of classroom experience in their native country;
(d) have lived in the United States for at least 5 years;
(e) have basic communication skills in English;
(f) have basic reading skills in English;
(g) are willing to devote not more than a total of two (2) hours to the study.

The task will be short and beneficial to you because it will help you to improve your English. It will request that at 2 convenient times you meet with me, read a simple text, answer questions based on the text, and describe some pictures. If you agree to be part of the study, you will receive a Haitian-English picture dictionary as an incentive for participation. All the information will remain confidential.

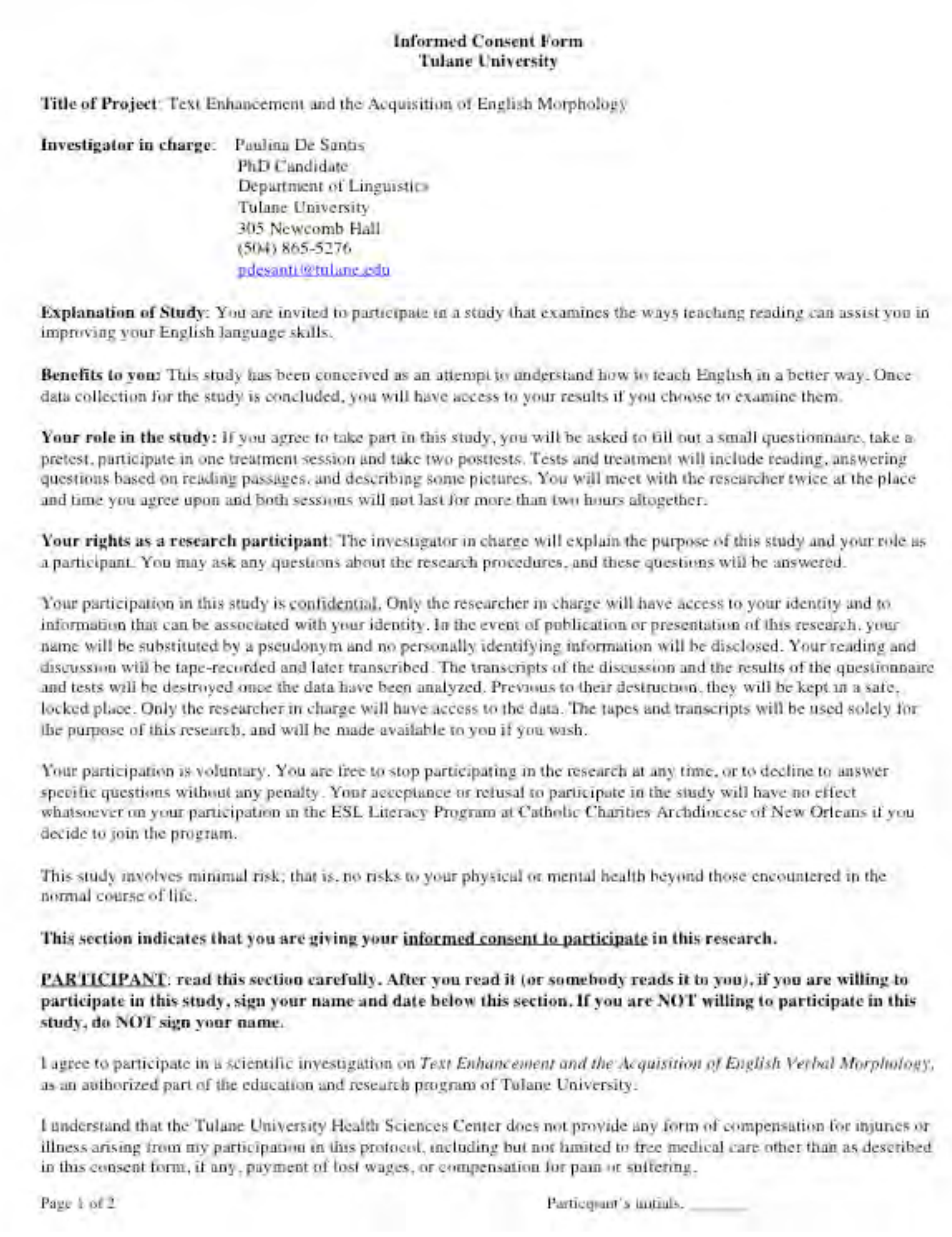
If you would like to participate in this study, please contact me directly by phone at 887-6171 (home), 310-6925 (work), or 347-5581, ext. 289 (classroom) to arrange the 1st meeting. You can also come directly to the classroom at 1101 Barataria Blvd. (a small building next to the basketball playground behind the main Hope Haven building) on any Thursday in the morning (between 8:30 and 10:30 a.m.) or in the evening (between 6:30 and 8:30 p.m.).

Thank you for your cooperation.

Sincerely,

Paulina De Santis

Appendix B: Informed Consent Form



Informed Consent Form
Tulane University

Title of Project: Text Enhancement and the Acquisition of English Morphology

Investigator in charge: Paulina De Santis
PhD Candidate
Department of Linguistics
Tulane University
305 Newcomb Hall
(504) 865-5276
pdesanti@tulane.edu

Explanation of Study: You are invited to participate in a study that examines the ways teaching reading can assist you in improving your English language skills.

Benefits to you: This study has been conceived as an attempt to understand how to teach English in a better way. Once data collection for the study is concluded, you will have access to your results if you choose to examine them.

Your role in the study: If you agree to take part in this study, you will be asked to fill out a small questionnaire, take a pretest, participate in one treatment session and take two posttests. Tests and treatment will include reading, answering questions based on reading passages, and describing some pictures. You will meet with the researcher twice at the place and time you agree upon and both sessions will not last for more than two hours altogether.

Your rights as a research participant: The investigator in charge will explain the purpose of this study and your role as a participant. You may ask any questions about the research procedures, and these questions will be answered.

Your participation in this study is confidential. Only the researcher in charge will have access to your identity and to information that can be associated with your identity. In the event of publication or presentation of this research, your name will be substituted by a pseudonym and no personally identifying information will be disclosed. Your reading and discussion will be tape-recorded and later transcribed. The transcripts of the discussion and the results of the questionnaire and tests will be destroyed once the data have been analyzed. Previous to their destruction, they will be kept in a safe, locked place. Only the researcher in charge will have access to the data. The tapes and transcripts will be used solely for the purpose of this research, and will be made available to you if you wish.

Your participation is voluntary. You are free to stop participating in the research at any time, or to decline to answer specific questions without any penalty. Your acceptance or refusal to participate in the study will have no effect whatsoever on your participation in the ESL Literacy Program at Catholic Charities Archdiocese of New Orleans if you decide to join the program.

This study involves minimal risk; that is, no risks to your physical or mental health beyond those encountered in the normal course of life.

This section indicates that you are giving your informed consent to participate in this research.

PARTICIPANT: read this section carefully. After you read it (or somebody reads it to you), if you are willing to participate in this study, sign your name and date below this section. If you are NOT willing to participate in this study, do NOT sign your name.

I agree to participate in a scientific investigation on *Text Enhancement and the Acquisition of English Verbal Morphology*, as an authorized part of the education and research program of Tulane University.

I understand that the Tulane University Health Sciences Center does not provide any form of compensation for injuries or illness arising from my participation in this protocol, including but not limited to free medical care other than as described in this consent form, if any, payment of lost wages, or compensation for pain or suffering.

Page 1 of 2

Participant's initials. _______

Appendix B: Informed Consent Form, cont.

I understand the information given to me, and I have received answers to any questions I may have had about the research procedure. I understand and agree to the conditions of this study as described.

To the best of my knowledge and belief, I have no physical or mental illness or difficulties that would increase the risk of me participating in this study.

I understand that my participation in this research is voluntary, and that I may withdraw from this study at any time by notifying the person in change.

I understand I will receive a signed copy of this consent form. I can get a summary of the results of the study by contacting the principal investigator, Paulina De Santis at (504) 865-5276 or by e-mail at pdesanti@tulane.edu.

I am 18 years of age or older.

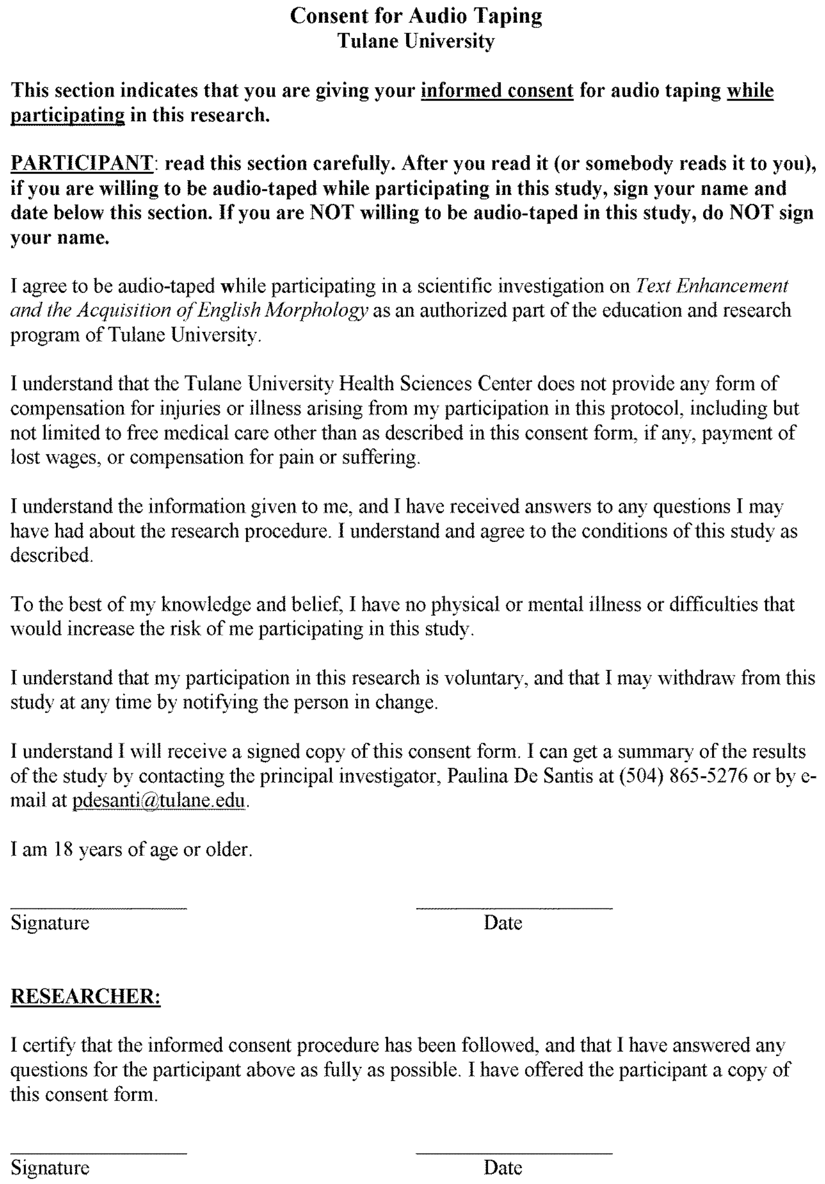
______________	______________
Signature	Date

RESEARCHER:

I certify that the informed consent procedure has been followed, and that I have answered any questions for the participant above as fully as possible. I have offered the participant a copy of this consent form.

______________	______________
Signature	Date

Appendix B: Consent for Audio Taping



Consent for Audio Taping
Tulane University

This section indicates that you are giving your informed consent for audio taping while participating in this research.

PARTICIPANT: read this section carefully. After you read it (or somebody reads it to you), if you are willing to be audio-taped while participating in this study, sign your name and date below this section. If you are NOT willing to be audio-taped in this study, do NOT sign your name.

I agree to be audio-taped while participating in a scientific investigation on *Text Enhancement and the Acquisition of English Morphology* as an authorized part of the education and research program of Tulane University.

I understand that the Tulane University Health Sciences Center does not provide any form of compensation for injuries or illness arising from my participation in this protocol, including but not limited to free medical care other than as described in this consent form, if any, payment of lost wages, or compensation for pain or suffering.

I understand the information given to me, and I have received answers to any questions I may have had about the research procedure. I understand and agree to the conditions of this study as described.

To the best of my knowledge and belief, I have no physical or mental illness or difficulties that would increase the risk of me participating in this study.

I understand that my participation in this research is voluntary, and that I may withdraw from this study at any time by notifying the person in change.

I understand I will receive a signed copy of this consent form. I can get a summary of the results of the study by contacting the principal investigator, Paulina De Santis at (504) 865-5276 or by e-mail at pdesanti@tulane.edu.

I am 18 years of age or older.

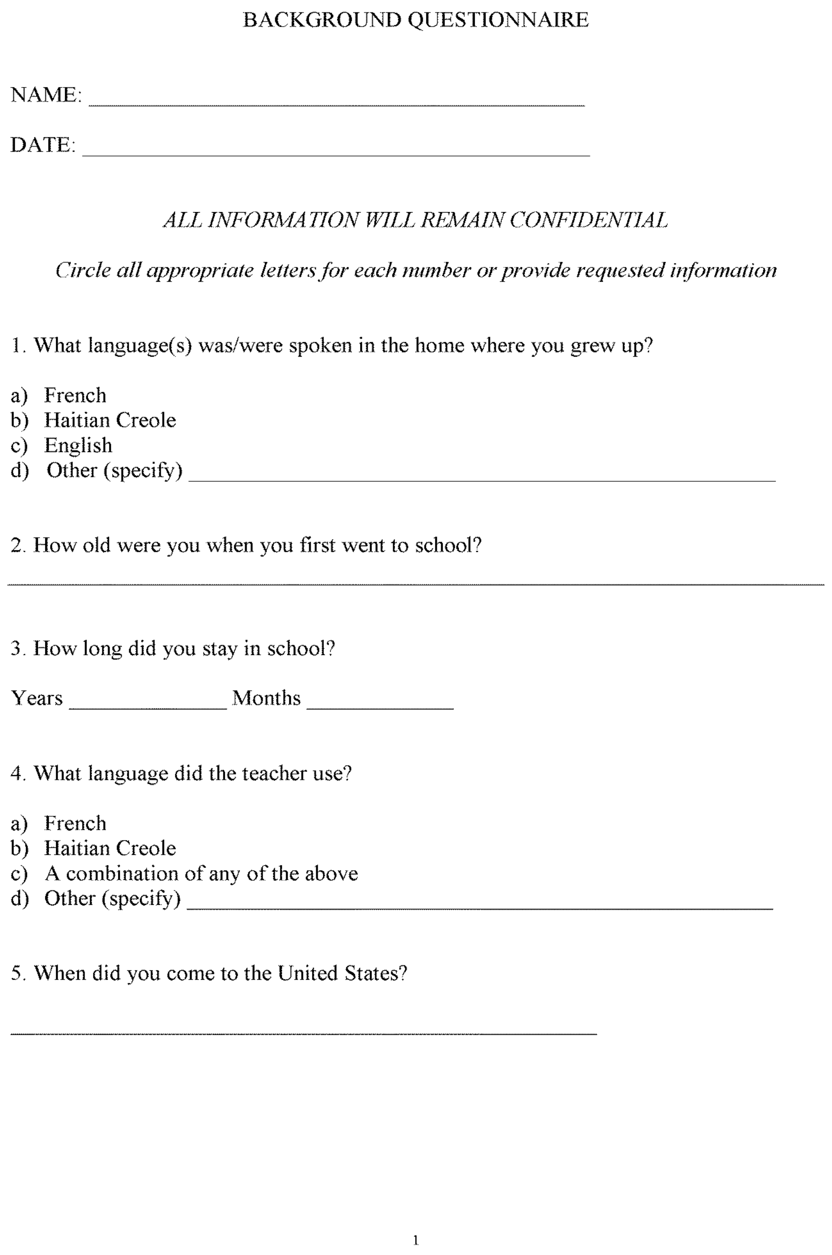
__________________ ____________________
Signature Date

RESEARCHER:

I certify that the informed consent procedure has been followed, and that I have answered any questions for the participant above as fully as possible. I have offered the participant a copy of this consent form.

__________________ ____________________
Signature Date

Appendix C: Background Questionnaire



BACKGROUND QUESTIONNAIRE

NAME: ____

DATE: ____

ALL INFORMATION WILL REMAIN CONFIDENTIAL

Circle all appropriate letters for each number or provide requested information

1. What language(s) was/were spoken in the home where you grew up?

a) French
b) Haitian Creole
c) English
d) Other (specify) ____

2. How old were you when you first went to school?

____

3. How long did you stay in school?

Years _______________ Months _____________

4. What language did the teacher use?

a) French
b) Haitian Creole
c) A combination of any of the above
d) Other (specify) ____

5. When did you come to the United States?

____

Appendix C: Background Questionnaire, cont.

6. Did you study English in the United States? If yes, for how long?

a) Yes ____

b) No

7. Where did you study English?

a) On my own

b) At an adult language program

c) Other (specify) ____

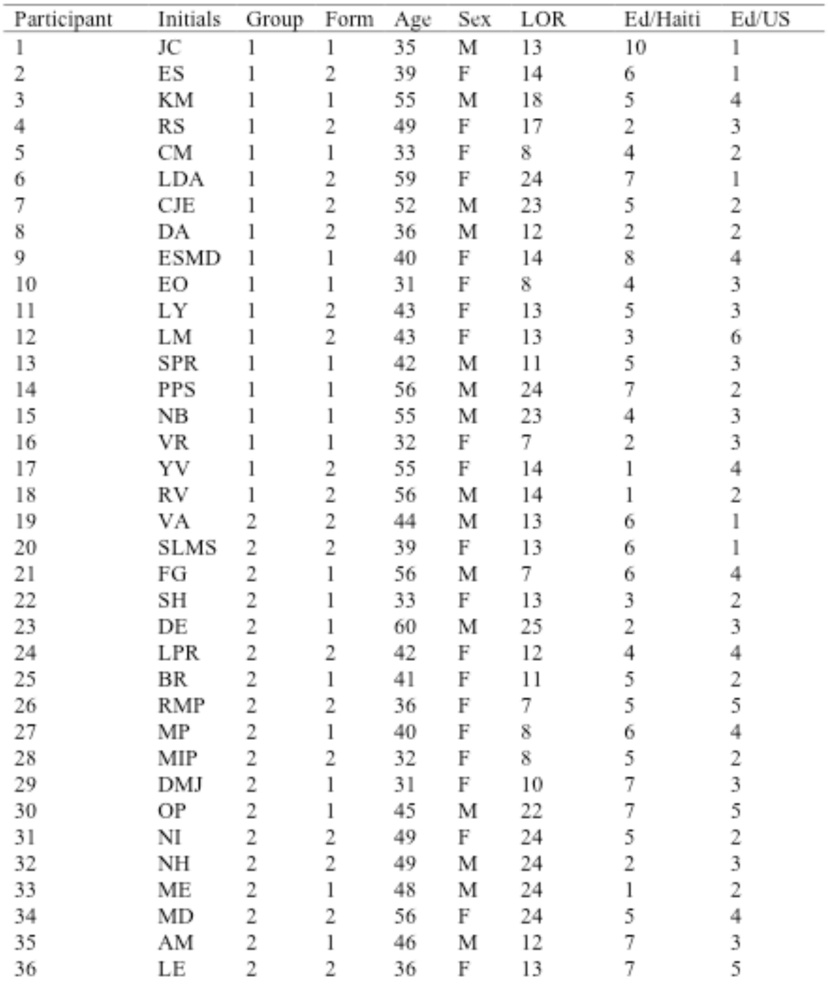
9. What language do you speak at home now?

a) French
b) Haitian Creole
c) English
d) Other (specify) ____

10. Where do you use English?

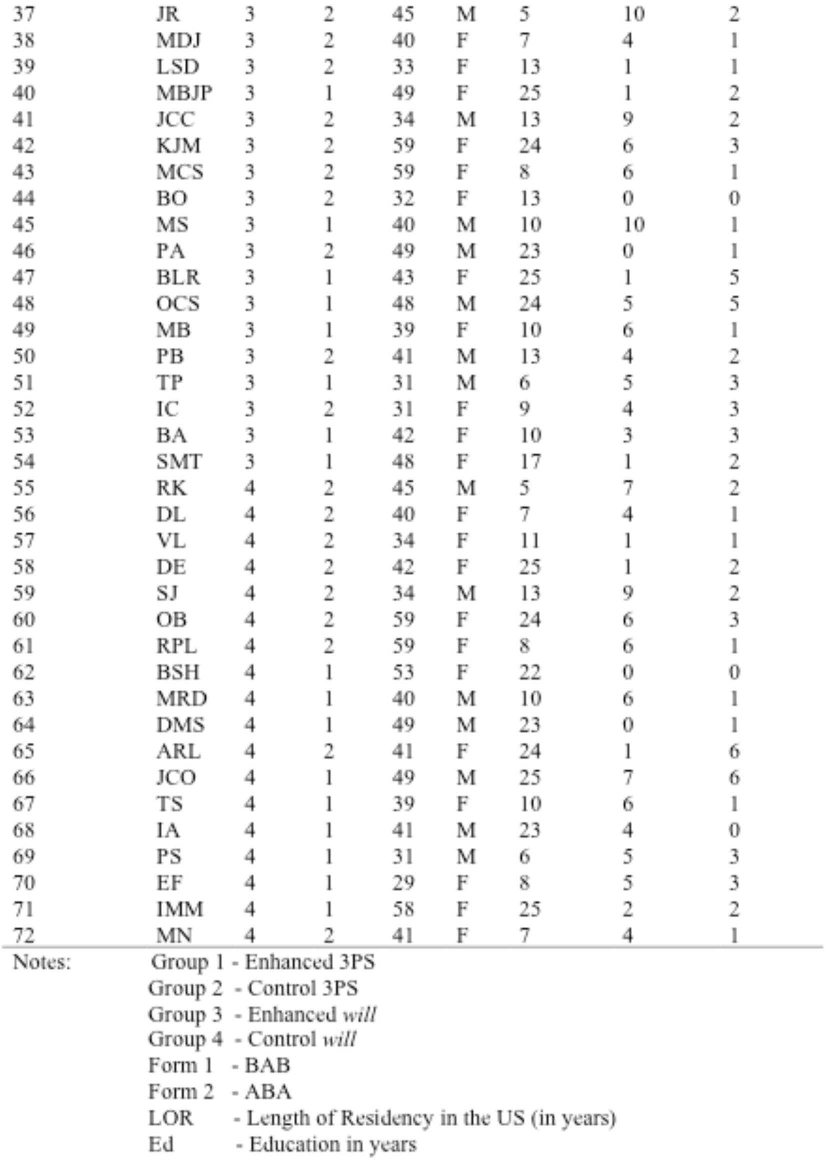
a) at work
b) at home
c) with friends
d) other (specify) ____

Appendix D: Summary of Subjects' Demographic Information



Participant	Initials	Group	Form	Age	Sex	LOR	Ed/Haiti	Ed/US
1	JC	1	1	35	M	13	10	1
2	ES	1	2	39	F	14	6	1
3	KM	1	1	55	M	18	5	4
4	RS	1	2	49	F	17	2	3
5	CM	1	1	33	F	8	4	2
6	LDA	1	2	59	F	24	7	1
7	CJE	1	2	52	M	23	5	2
8	DA	1	2	36	M	12	2	2
9	ESMD	1	1	40	F	14	8	4
10	EO	1	1	31	F	8	4	3
11	LY	1	2	43	F	13	5	3
12	LM	1	2	43	F	13	3	6
13	SPR	1	1	42	M	11	5	3
14	PPS	1	1	56	M	24	7	2
15	NB	1	1	55	M	23	4	3
16	VR	1	1	32	F	7	2	3
17	YV	1	2	55	F	14	1	4
18	RV	1	2	56	M	14	1	2
19	VA	2	2	44	M	13	6	1
20	SLMS	2	2	39	F	13	6	1
21	FG	2	1	56	M	7	6	4
22	SH	2	1	33	F	13	3	2
23	DE	2	1	60	M	25	2	3
24	LPR	2	2	42	F	12	4	4
25	BR	2	1	41	F	11	5	2
26	RMP	2	2	36	F	7	5	5
27	MP	2	1	40	F	8	6	4
28	MIP	2	2	32	F	8	5	2
29	DMJ	2	1	31	F	10	7	3
30	OP	2	1	45	M	22	7	5
31	NI	2	2	49	F	24	5	2
32	NH	2	2	49	M	24	2	3
33	ME	2	1	48	M	24	1	2
34	MD	2	2	56	F	24	5	4
35	AM	2	1	46	M	12	7	3
36	LE	2	2	36	F	13	7	5

Appendix D: Summary of Subjects' Demographic Information, cont.



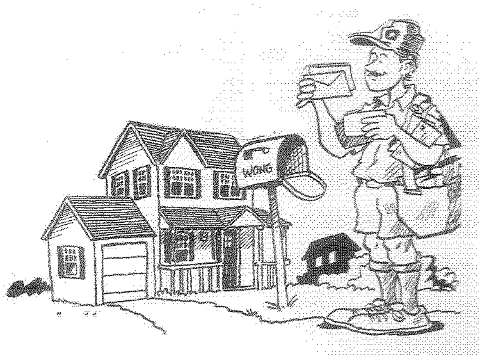
37	JR	3	2	45	M	5	10	2
38	MDJ	3	2	40	F	7	4	1
39	LSD	3	2	33	F	13	1	1
40	MBJP	3	1	49	F	25	1	2
41	JCC	3	2	34	M	13	9	2
42	KJM	3	2	59	F	24	6	3
43	MCS	3	2	59	F	8	6	1
44	BO	3	2	32	F	13	0	0
45	MS	3	1	40	M	10	10	1
46	PA	3	2	49	M	23	0	1
47	BLR	3	1	43	F	25	1	5
48	OCS	3	1	48	M	24	5	5
49	MB	3	1	39	F	10	6	1
50	PB	3	2	41	M	13	4	2
51	TP	3	1	31	M	6	5	3
52	IC	3	2	31	F	9	4	3
53	BA	3	1	42	F	10	3	3
54	SMT	3	1	48	F	17	1	2
55	RK	4	2	45	M	5	7	2
56	DL	4	2	40	F	7	4	1
57	VL	4	2	34	F	11	1	1
58	DE	4	2	42	F	25	1	2
59	SJ	4	2	34	M	13	9	2
60	OB	4	2	59	F	24	6	3
61	RPL	4	2	59	F	8	6	1
62	BSH	4	1	53	F	22	0	0
63	MRD	4	1	40	M	10	6	1
64	DMS	4	1	49	M	23	0	1
65	ARL	4	2	41	F	24	1	6
66	JCO	4	1	49	M	25	7	6
67	TS	4	1	39	F	10	6	1
68	IA	4	1	41	M	23	4	0
69	PS	4	1	31	M	6	5	3
70	EF	4	1	29	F	8	5	3
71	IMM	4	1	58	F	25	2	2
72	MN	4	2	41	F	7	4	1

Notes:
Group 1 - Enhanced 3PS
Group 2 - Control 3PS
Group 3 - Enhanced *will*
Group 4 - Control *will*
Form 1 - BAB
Form 2 - ABA
LOR - Length of Residency in the US (in years)
Ed - Education in years

Appendix E: Materials for Treatment Sessions, Experiment 1 (Enhanced/Bold)

Date: ________ Name________________

Read the following story out loud. Pay attention to the ***BOLD-FACED*** *letters.*



LETTERS

Ernie Basko work**S** at the post office. He is a U.S. mail carrier and he like**S** his job very much. Every morning Ernie wake**S** up at 6:00 a.m. and drink**S** a cup of coffee. He eat**S** a quick breakfast and he goe**S** to the post office right after breakfast. He wear**S** his blue and gray uniform to work every day.

When he arrive**S** at the post office, his working day begin**S**. First, he sort**S** mail for the customers in his area. Then Ernie get**S** into his mail truck and drive**S** to the neighborhood on his route. He park**S** his truck in a shady

Date: _________ Name_________________

place, put**S** a heavy brown mailbag on his shoulder, and walk**S** around the neighborhood. Ernie deliver**S** letters and packages to houses and apartments.

Ernie is a very friendly person, and people are happy to see him. Mrs. Perez ask**S**, “Do you have a check for me today, Ernie?” Mr. Wong, say**S**, “Ernie, please, don’t give me any bills.”

Dogs are the only problem for Ernie. They bark at him. Sometimes, they chase him. Ernie is happy when the working day is over. At 5:00 p.m. he hurrie**S** home.

When he come**S** home, Ernie hug**S** his wife and kids and sit**S** down for dinner. After dinner, he help**S** his wife to clean the kitchen, play**S** with his children and read**S** the newspaper. Every Friday, he call**S** his friend Jimmy and invite**S** him to the nearby coffee shop for a cup of coffee.

He meet**S** Jimmy at his favorite coffee shop around the corner. Usually, Ernie buy**S** Jimmy a cup of coffee and tell**S** him about his work, family, and friends. When Ernie return**S** home, he give**S** his

Appendix E: Materials for Treatment Sessions, Experiment 1 (Enhanced/Bold), cont.

Date: ________ Name________________

wife a kiss, check**S** that the children are in bed, turn**S** off the light in their room, and spend**S** the rest of the evening with his wife in front of the TV.

Appendix E: Materials for Treatment Sessions, Experiment 1 (Enhanced/Bold), cont.

Date: _________ Name__________________

Read the questions. Finish answering each question paying attention to the ***BOLD-FACED*** *letters. Write down your answers.*

1. Where does Ernie work?

   He work**S** ____.

2. What time does Ernie wake up every morning?

   He wake**S** up ____.

3. Where does he go in the morning?

   He goe**S** to ____.

4. What does he wear to work?

   He wear**S** ____.

5. Where does he drive in his truck?

   He drive**S** ____.

6. What does he deliver to houses and apartments?

   He deliver**S** ____.

7. Where does he park his truck?

   He park**S** ____.

8. What does he put on his shoulder?

   He put**S** ____.

Appendix E: Materials for Treatment Sessions, Experiment 1 (Enhanced/Bold), cont.

Date: __________ Name____________________

9. Where does he hurry after work?

He hurrie**S** ____.

10. What does Ernie do when he comes home?

He hug**S**____

11. What does he do after dinner?

He help**S**____

12. Whom does he call every Friday?

He call**S** ____

13. Where does he meet Jimmy?

He meet**S** Jimmy____

14. What does he tell Jimmy about?

He tell**S** Jimmy ____

15. What does he do when he comes back from the coffee shop?

He check**S** that ____

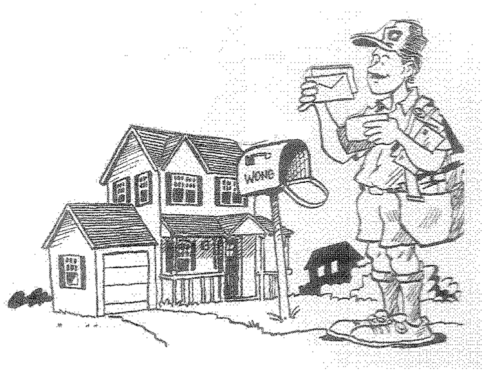
16. How does he spend the rest of the evening?

He spend**S** ____.

Appendix E: Materials for Treatment Sessions, Experiment 1 (Control)

Date: ________ Name________________

Read the following story out loud.



LETTERS

Ernie Basko works at the post office. He is a U.S. mail carrier and he likes his job very much. Every morning Ernie wakes up at 6:00 a.m. and drinks a cup of coffee. He eats a quick breakfast and he goes to the post office right after breakfast. He wears his blue and gray uniform to work every day.

When he arrives at the post office, his working day begins. First, he sorts mail for the customers in his area. Then Ernie gets into his mail truck and drives to the neighborhood on his route. He parks his truck in a shady place, puts a heavy brown mailbag on his shoulder, and walks around the

Appendix E: Materials for Treatment Sessions, Experiment 1 (Control), cont.

Date: ________ Name________________

neighborhood. Ernie delivers letters and packages to houses and apartments.

Ernie is a very friendly person, and people are happy to see him. Mrs. Perez asks, “Do you have a check for me today, Ernie?” Mr. Wong, says, “ Ernie, please, don’t give me any bills.”

Dogs are the only problem for Ernie. They bark at him. Sometimes, they chase him. Ernie is happy when the working day is over. At 5:00 p.m. he hurries home.

When he comes home, Ernie hugs his wife and kids and sits down for dinner. After dinner, he helps his wife to clean the kitchen, plays with his children and reads the newspaper. Every Friday, he calls his friend Jimmy and invites him to the nearby coffee shop for a cup of coffee.

He meets Jimmy at his favorite coffee shop around the corner. Usually, Ernie buys Jimmy a cup of coffee and tells him about his work, family, and friends. When Ernie returns home, he gives his wife a kiss, checks that the children are in bed, turns off the light in their room, and spends the rest of the evening with his wife in front of the TV.

Appendix E: Materials for Treatment Sessions, Experiment 1 (Control), cont.

Date: ________ Name________________

Read the questions. Finish answering each question. Write down your answers.

1. Where does Ernie work?

   He works ____.

2. What time does Ernie wake up every morning?

   He wakes up ____.

3. Where does he go in the morning?

   He goes to ____.

4. What does he wear to work?

   He wears ____.

5. Where does he drive in his truck?

   He drives ____.

6. What does he deliver to houses and apartments?

   He delivers ____.

7. Where does he park his truck?

   He parks ____.

8. What does he put on his shoulder?

   He puts ____.

9. Where does he hurry after work?

   He hurries ____.

Appendix E: Materials for Treatment Sessions, Experiment 1 (Control), cont.

Date: _________ Name__________________

10. What does Ernie do when he comes home?

He hugs____.

11. What does he do after dinner?

He helps____.

12. Whom does he call every Friday?

He calls ____.

13. Where does he meet Jimmy?

He meets Jimmy_____________________________________.

14. What does he tell Jimmy about?

He tells Jimmy ______________________________________.

15. What does he do when he comes back from the coffee shop?

He checks that ______________________________________.

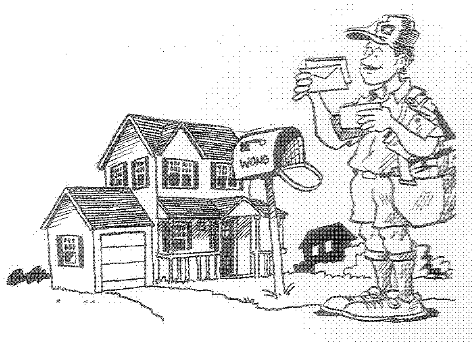
16. How does he spend the rest of the evening?

He spends ____.

Appendix F: Materials for Treatment Sessions, Experiment 2 (Enhanced/Bold)

Date: _________ Name__________________

Read the following story out loud. Pay attention to the **BOLD-FACED** *words and letters.*



LETTERS

Tomorrow, Ernie Basko **will** begin his new job. He **will** work at the U.S. post office as a mail carrier. He **will** wake up very early and he**'ll** wear his new blue and gray uniform to work. He**'ll** go to work right after breakfast. Tomorrow, Ernie **will** arrive at work earlier and he**'ll** deliver letters and packages to houses and apartments for the first time.

First, he **will** sort mail for the customers in his area and then he**'ll** get into his mail truck and he**'ll** drive to the neighborhood on his route. He

Date: _________ Name__________________

will park his truck in a shady place. Then, he**'ll** put a heavy brown mailbag on his shoulder and he**'ll** walk around the neighborhood.

Ernie is a very friendly person, and people **will** be happy to see him. Tomorrow, Mrs. Perez **will** ask, “Do you have a check for me, Ernie?” Mr. Wong **will** say, “Ernie, please, don’t give me any bills.”

Tomorrow after work, Ernie **will** hurry home. He**'ll** come home and first he**'ll** hug his wife and kids. Then he**'ll** sit down for dinner. Ernie **will** eat his favorite chicken and he **will** drink a glass of wine. After dinner, he**'ll** help his wife to clean the kitchen. Then, he **will** play with his children and he**'ll** read the newspaper.

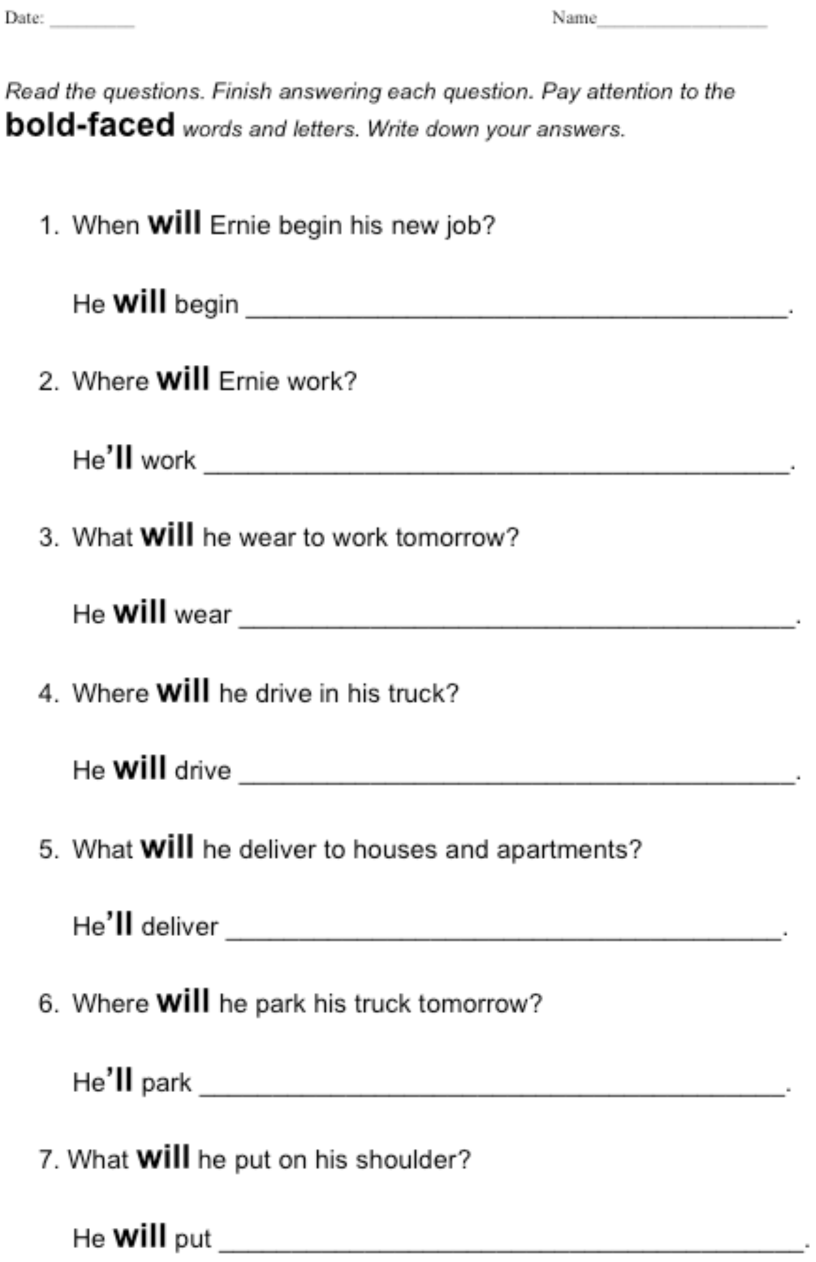
At around 8:00 p.m., he **will** call his friend Jimmy and he**'ll** invite him for a cup of coffee. He**'ll** meet Jimmy at his favorite coffee shop around the corner. Ernie **will** buy Jimmy a cup of coffee and he**'ll** tell him about his first day at the new job. After coffee, Ernie **will** return home.

Appendix F: Materials for Treatment Sessions, Experiment 2 (Enhanced/Bold), cont.

Date: _________ Name__________________

At home, Ernie **will** give his wife a hug and a kiss. He **will** check if the children are in bed and he**’ll** turn off the light in the children’s room. He**’ll** spend the rest of the evening with his wife in front of the TV. Ernie is very excited about tomorrow! He**’ll** like his new job.

Appendix F: Materials for Treatment Sessions, Experiment 2 (Enhanced/Bold), cont.



Date: _________ Name__________________

Read the questions. Finish answering each question. Pay attention to the **bold-faced** *words and letters. Write down your answers.*

1. When **will** Ernie begin his new job?

   He **will** begin ____.

2. Where **will** Ernie work?

   He**'ll** work ____.

3. What **will** he wear to work tomorrow?

   He **will** wear ____.

4. Where **will** he drive in his truck?

   He **will** drive ____.

5. What **will** he deliver to houses and apartments?

   He**'ll** deliver ____.

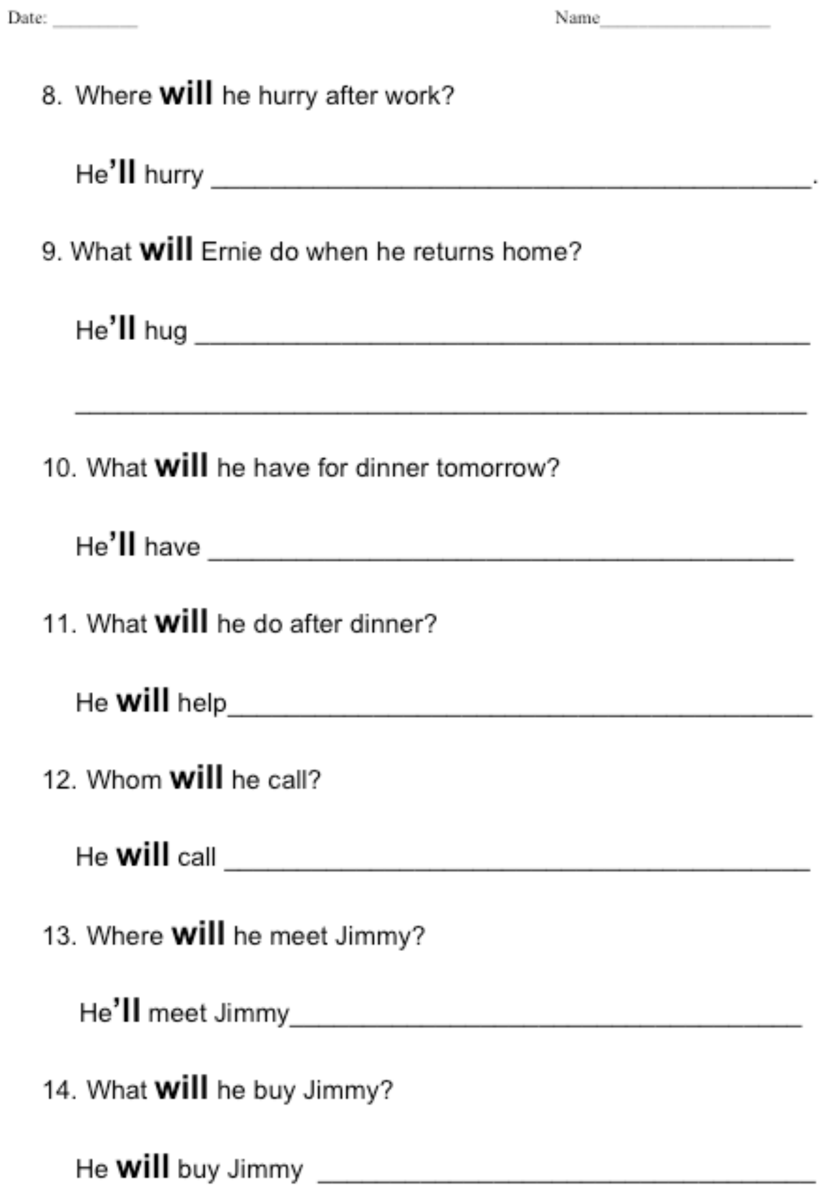
6. Where **will** he park his truck tomorrow?

   He**'ll** park ____.

7. What **will** he put on his shoulder?

   He **will** put ____.

Appendix F: Materials for Treatment Sessions, Experiment 2 (Enhanced/Bold), cont.



Date: __________ Name____________________

8. Where **will** he hurry after work?

He**'ll** hurry ____.

9. What **will** Ernie do when he returns home?

He**'ll** hug ____

____

10. What **will** he have for dinner tomorrow?

He**'ll** have ____

11. What **will** he do after dinner?

He **will** help____

12. Whom **will** he call?

He **will** call ____

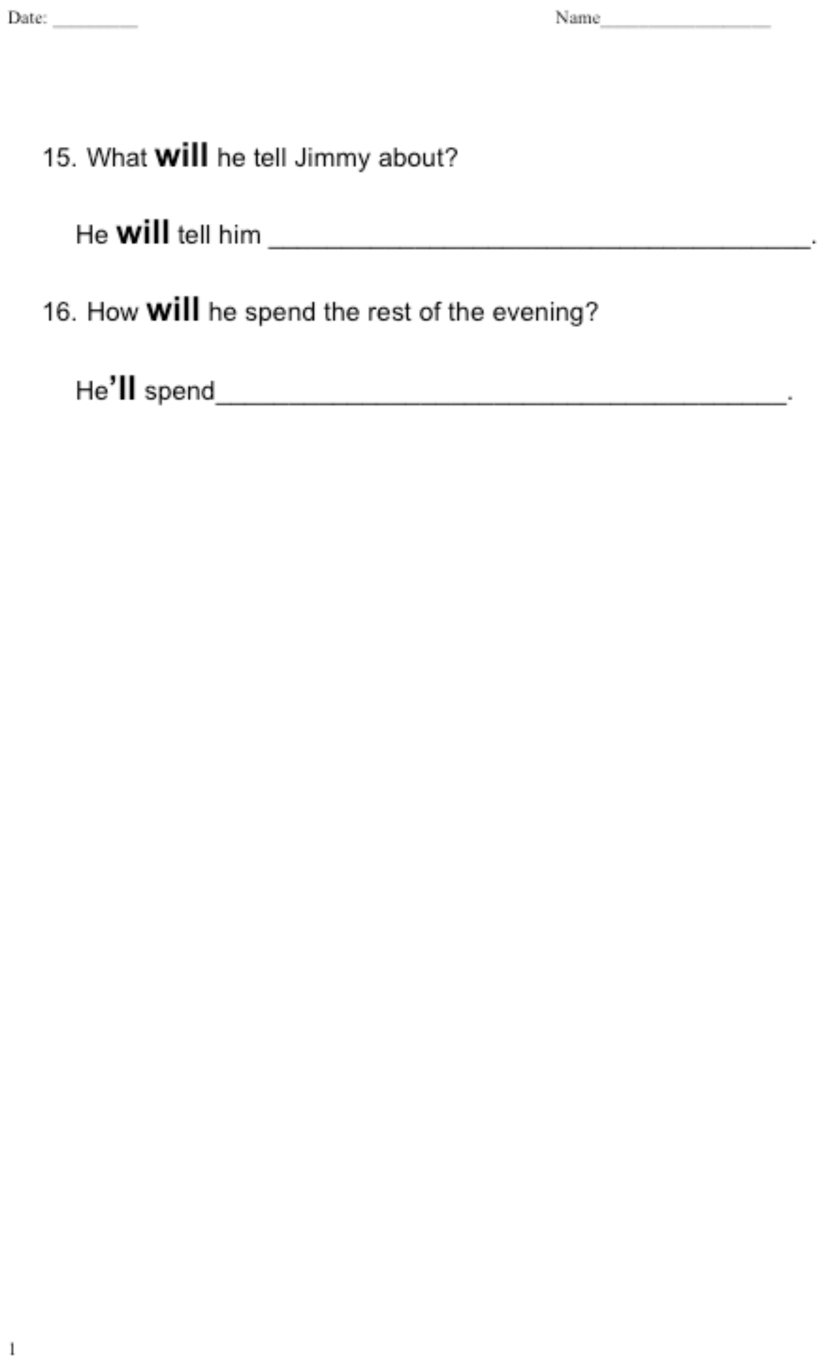
13. Where **will** he meet Jimmy?

He**'ll** meet Jimmy_______________________________________

14. What **will** he buy Jimmy?

He **will** buy Jimmy ______________________________________

Appendix F: Materials for Treatment Sessions, Experiment 2 (Enhanced/Bold), cont.



Date: _________ Name__________________

15. What **will** he tell Jimmy about?

He **will** tell him ______________________________________.

16. How **will** he spend the rest of the evening?

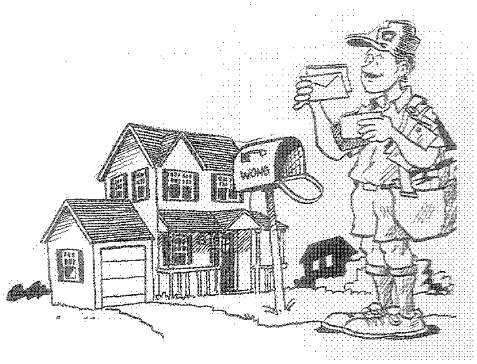
He**'ll** spend____.

1

Appendix F: Materials for Treatment Sessions, Experiment 2 (Control)

Date: _________ Name_________________

Read the following story out loud.



LETTERS

Tomorrow, Ernie Basko will begin his new job. He will work at the U.S. post office as a mail carrier. He will wake up very early and he'll wear his new blue and gray uniform to work. He'll go to work right after breakfast. Tomorrow, Ernie will arrive at work earlier and he'll deliver letters and packages to houses and apartments for the first time.

First, he will sort mail for the customers in his area and then he'll get into his mail truck and he'll drive to the neighborhood on his route. He will park his truck in a shady place. Then, he'll put a heavy brown mailbag on his shoulder and he'll walk around the neighborhood.

Appendix F: Materials for Treatment Sessions, Experiment 2 (Control), cont.

Date: _________ Name__________________

Ernie is a very friendly person, and people will be happy to see him. Tomorrow, Mrs. Perez will ask, “Do you have a check for me, Ernie?” Mr. Wong will say, “Ernie, please, don’t give me any bills.”

Tomorrow after work, Ernie will hurry home. He’ll come home and first he’ll hug his wife and kids. Then he’ll sit down for dinner. Ernie will eat his favorite chicken and he will drink a glass of wine. After dinner, he’ll help his wife to clean the kitchen. Then, he will play with his children and he’ll read the newspaper.

At around 8:00 p.m., he will call his friend Jimmy and he’ll invite him for a cup of coffee. He’ll meet Jimmy at his favorite coffee shop around the corner. Ernie will buy Jimmy a cup of coffee and he’ll tell him about his first day at the new job. After coffee, Ernie will return home.

At home, Ernie will give his wife a hug and a kiss. He will check if the children are in bed and he’ll turn off the light in the children’s room. He’ll spend the rest of the evening with his wife in front of the TV. Ernie is very excited about tomorrow! He’ll like his new job.

Appendix F: Materials for Treatment Sessions, Experiment 2 (Control), cont.

Date: _________ Name__________________

Read the questions. Finish answering each question. Write down your answers.

1. When will Ernie begin his new job?

   He will begin ____.

2. Where will Ernie work?

   He'll work ____.

3. What will he wear to work tomorrow?

   He will wear ____.

4. Where will he drive in his truck?

   He will drive ____.

5. What will he deliver to houses and apartments?

   He'll deliver ____.

6. Where will he park his truck tomorrow?

   He'll park ____.

7. What will he put on his shoulder?

   He will put ____.

8. Where will he hurry after work?

   He'll hurry ____.

9. What will Ernie do when he returns home?

   He'll hug ____

   ____

Appendix F: Materials for Treatment Sessions, Experiment 2 (Control), cont.

Date: _________   Name__________________

10. What will he have for dinner tomorrow?

He'll have ____

11. What will he do after dinner?

He will help____

12. Whom will he call?

He will call ____

13. Where will he meet Jimmy?

He'll meet Jimmy_______________________________________

14. What will he buy Jimmy?

He will buy Jimmy ______________________________________

15. What will he tell Jimmy about?

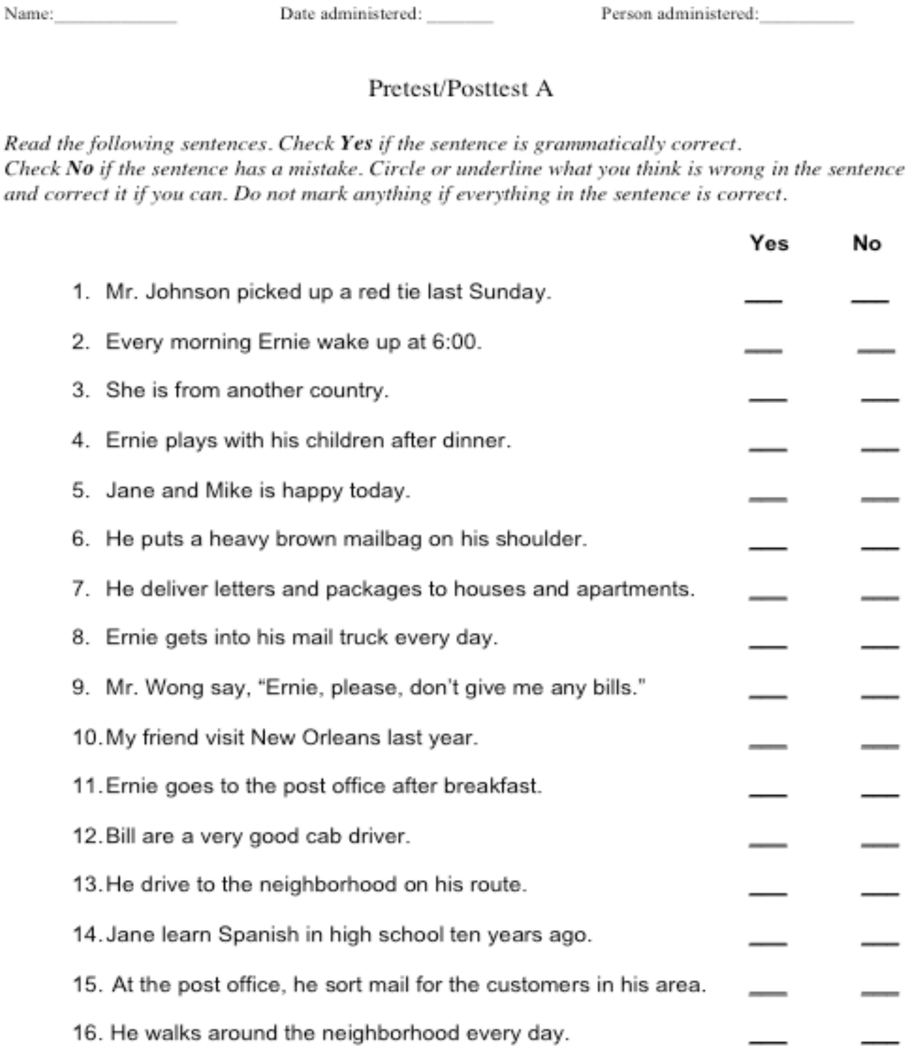
He will tell him ____.

16. How will he spend the rest of the evening?

He'll spend____.

Appendix G: Assessment Tasks, Experiment 1

Grammaticality Judgment Task (Version A)



Name:_____________ Date administered: _______ Person administered:__________

Pretest/Posttest A

*Read the following sentences. Check **Yes** if the sentence is grammatically correct.*
*Check **No** if the sentence has a mistake. Circle or underline what you think is wrong in the sentence and correct it if you can. Do not mark anything if everything in the sentence is correct.*

Yes **No**

1. Mr. Johnson picked up a red tie last Sunday. ___ ___
2. Every morning Ernie wake up at 6:00. ___ ___
3. She is from another country. ___ ___
4. Ernie plays with his children after dinner. ___ ___
5. Jane and Mike is happy today. ___ ___
6. He puts a heavy brown mailbag on his shoulder. ___ ___
7. He deliver letters and packages to houses and apartments. ___ ___
8. Ernie gets into his mail truck every day. ___ ___
9. Mr. Wong say, "Ernie, please, don't give me any bills." ___ ___
10. My friend visit New Orleans last year. ___ ___
11. Ernie goes to the post office after breakfast. ___ ___
12. Bill are a very good cab driver. ___ ___
13. He drive to the neighborhood on his route. ___ ___
14. Jane learn Spanish in high school ten years ago. ___ ___
15. At the post office, he sort mail for the customers in his area. ___ ___
16. He walks around the neighborhood every day. ___ ___

Appendix G: Assessment Tasks, Experiment 1

Reading Task (Version A)

Name:____________ Date administered: ______ Person administered:_________

Read the story out loud

In New Orleans

Barbara Brown lives in New Orleans. She is a secretary at the City Bank. She works every day from nine to five. She rents a nice apartment which is a long way from her job, and she always takes a bus to work. She goes to the bus stop at 8:30 a.m. and the bus arrives in five minutes. She gets to the bank in only ten minutes. Barbara is never late for work.

Barbara eats a late lunch at 2:00 p.m. She likes to eat a turkey sandwich or a chicken salad for lunch. She also drinks a cup of coffee. After lunch she hurries back to work.

After work, she spends an hour at the gym. She plays volleyball or basketball. Sometimes, she swims in the pool. In the evening, when she is back home, Barbara reads her favorite magazines and listens to the news.

Sam and Anne Green also live in New Orleans. They are tellers at the City Bank. They also work every day from nine to five. They rent a small house which is far from their job, and they always take a bus to work. They go to the bus stop at 8:30 in the morning and they arrive to the bank in ten minutes. They get to the office before 9:00 a.m. They are always on time for work.

Sam and Anne eat a late lunch at 2:00 p.m. They like to eat chicken and rice for lunch. They also drink tea or coffee. After lunch they hurry back to work.

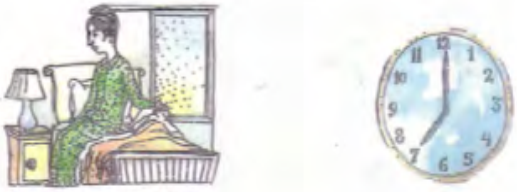
After work, they spend a few hours with their friends. They play tennis or basketball. Sometimes, they swim in the pool. In the evening, when they are back home, Sam and Anne read their favorite books and listen to music.

Appendix G: Assessment Tasks, Experiment 1

Picture Description Task (Version A)

Every Sunday, Jane

1.



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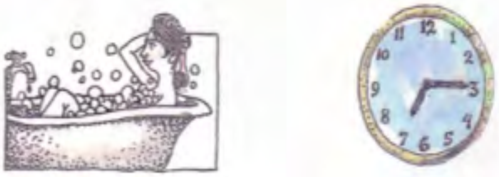

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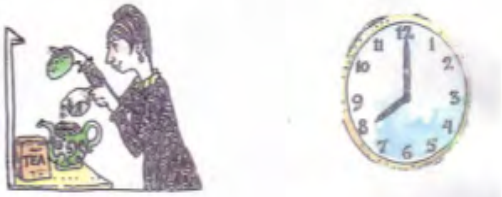

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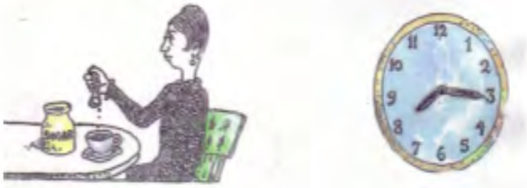

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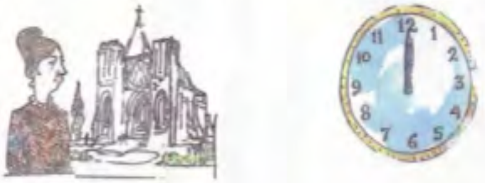
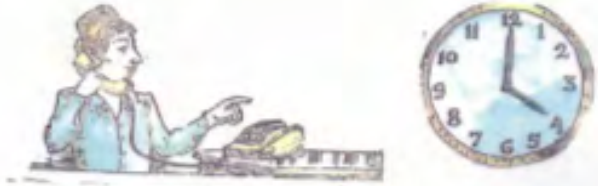


Appendix G: Assessment Tasks, Experiment 1

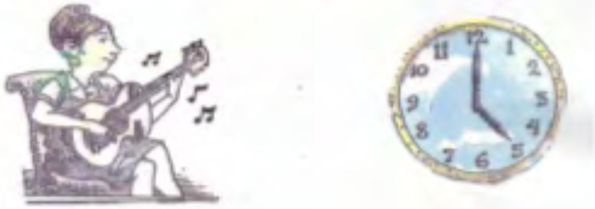
Picture Description Task (Version A), cont.

6.

7.



8.



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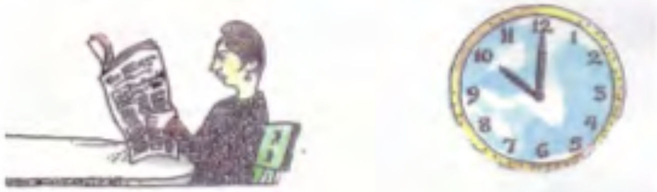
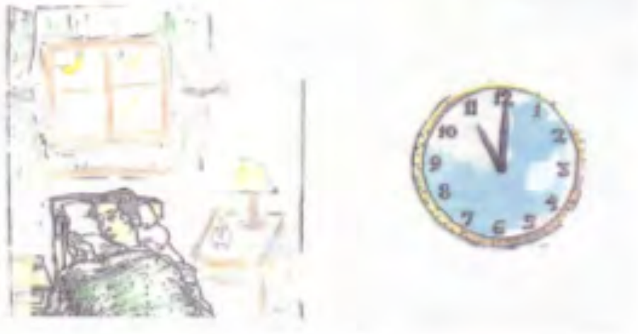
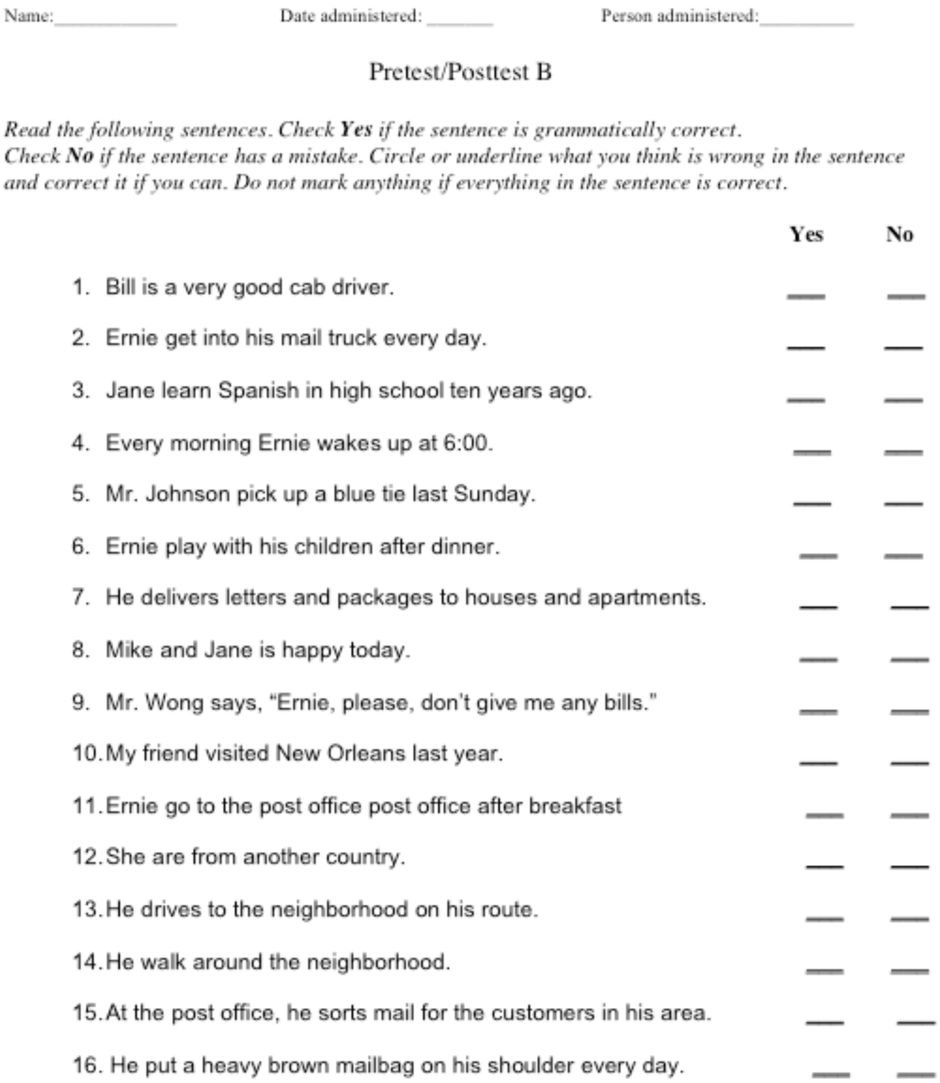


10.



Appendix G: Assessment Tasks, Experiment 1

Grammaticality Judgment Task (Version B)



Name:_____________ Date administered: _______ Person administered:__________

Pretest/Posttest B

Read the following sentences. Check ***Yes*** *if the sentence is grammatically correct.*
Check ***No*** *if the sentence has a mistake. Circle or underline what you think is wrong in the sentence and correct it if you can. Do not mark anything if everything in the sentence is correct.*

	Yes	**No**
1. Bill is a very good cab driver.	___	___
2. Ernie get into his mail truck every day.	___	___
3. Jane learn Spanish in high school ten years ago.	___	___
4. Every morning Ernie wakes up at 6:00.	___	___
5. Mr. Johnson pick up a blue tie last Sunday.	___	___
6. Ernie play with his children after dinner.	___	___
7. He delivers letters and packages to houses and apartments.	___	___
8. Mike and Jane is happy today.	___	___
9. Mr. Wong says, “Ernie, please, don’t give me any bills.”	___	___
10. My friend visited New Orleans last year.	___	___
11. Ernie go to the post office post office after breakfast	___	___
12. She are from another country.	___	___
13. He drives to the neighborhood on his route.	___	___
14. He walk around the neighborhood.	___	___
15. At the post office, he sorts mail for the customers in his area.	___	___
16. He put a heavy brown mailbag on his shoulder every day.	___	___

Appendix G: Assessment Tasks, Experiment 1

Reading Task (Version B)

Name:____________ Date administered: ______ Person administered:_________

Read the story out loud

In New York

Rick Hill lives in New York. He is a manager at the Hilton Hotel. He works every day from ten to six. He rents a nice apartment which is far from his job, and he always takes the subway to work. He goes to the train station at 9:00 a.m. and the train arrives in five minutes. He gets to the hotel in twenty minutes. Rick is never late for work.

Rick eats an early lunch at noon. He likes to eat soup and salad for lunch. He also drinks a glass of orange juice. After lunch he hurries back to work.

After work, he spends an hour at the gym. He plays table tennis or swims in the pool. In the evening, when he is back home, Rick reads his favorite books and listens to music.

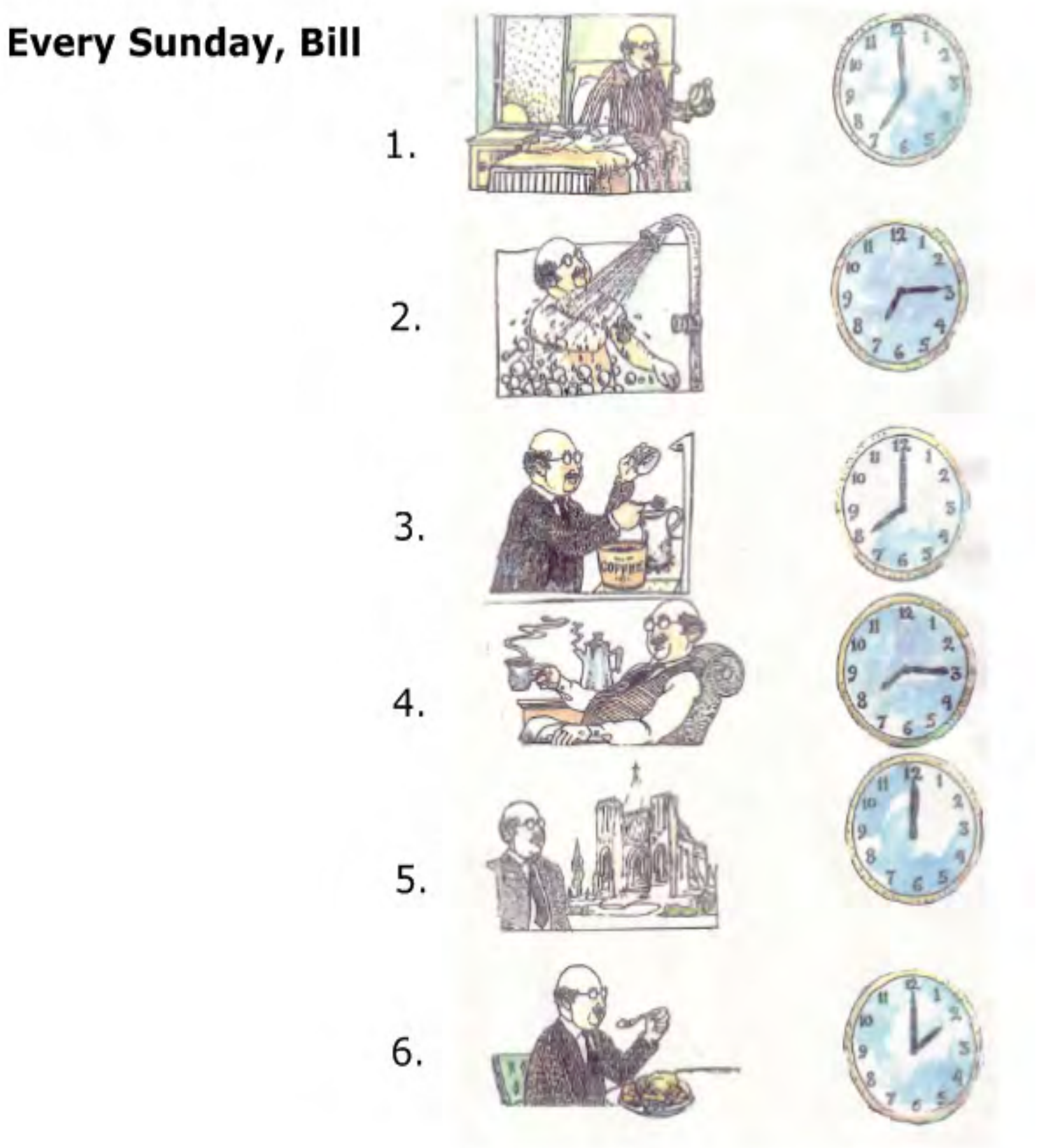
Don and Marta Copland also live in New York. They are musicians at the Hilton Hotel. They work every day from noon to 6:00 p.m. They rent a small house which is a long way from their job, and they always take the subway to work. They go to the train station at 11:00 a.m. and they arrive to the hotel in twenty minutes. They get to the dressing room before noon. They are always on time for work.

At 6:00 p.m., Don and Marta eat an early dinner in their favorite restaurant downtown. They like to eat chicken and rice for dinner. After dinner, they drink tea or coffee and hurry back home.

In the evening, they spend a few hours with their friends. They play cards or swim in the pool. Before going to bed, Don and Marta read their favorite magazines and listen to the news.

Appendix G: Assessment Tasks, Experiment 1

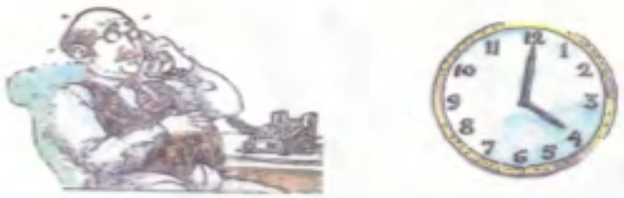
Picture Description Task (Version B)



Appendix G: Assessment Tasks, Experiment 1

Picture Description Task (Version B), cont.

7.



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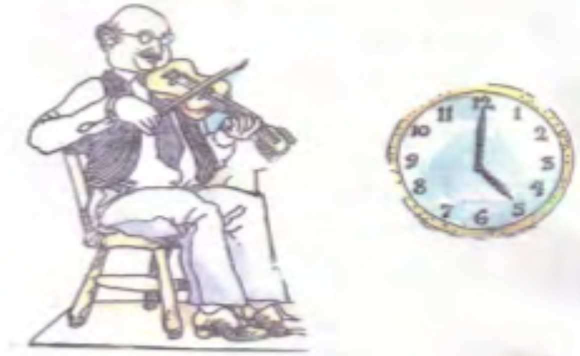

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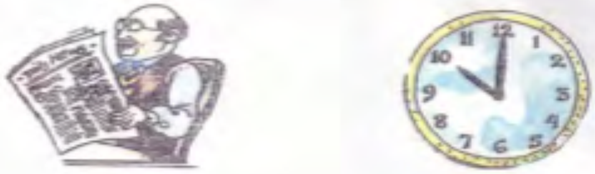
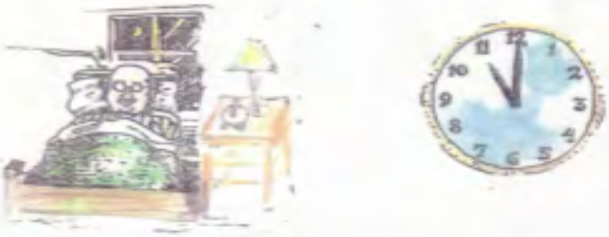
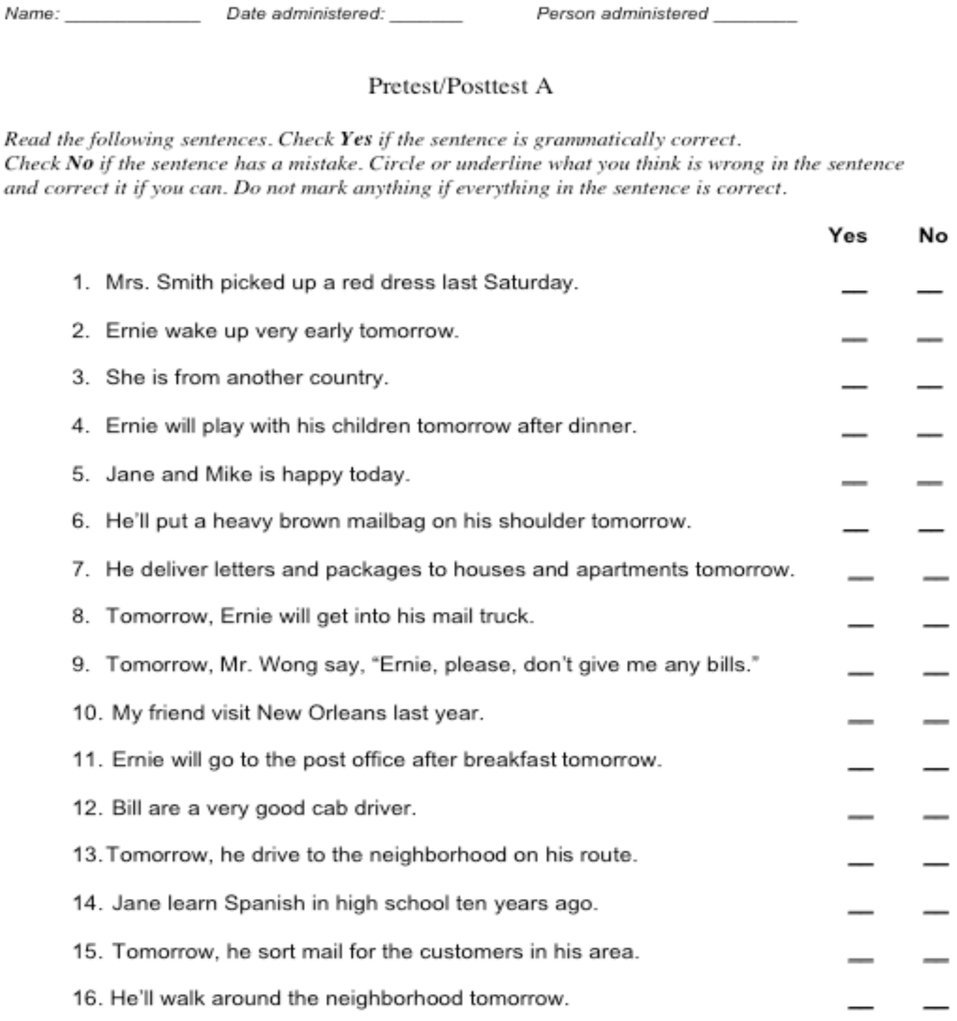


10.



Appendix H: Assessment Tasks, Experiment 2

Grammaticality Judgment Task (Version A)



Name: _____________ *Date administered:* _______ *Person administered* ________

Pretest/Posttest A

Read the following sentences. Check ***Yes*** *if the sentence is grammatically correct.*
Check ***No*** *if the sentence has a mistake. Circle or underline what you think is wrong in the sentence and correct it if you can. Do not mark anything if everything in the sentence is correct.*

Yes **No**

1. Mrs. Smith picked up a red dress last Saturday. __ __
2. Ernie wake up very early tomorrow. __ __
3. She is from another country. __ __
4. Ernie will play with his children tomorrow after dinner. __ __
5. Jane and Mike is happy today. __ __
6. He'll put a heavy brown mailbag on his shoulder tomorrow. __ __
7. He deliver letters and packages to houses and apartments tomorrow. __ __
8. Tomorrow, Ernie will get into his mail truck. __ __
9. Tomorrow, Mr. Wong say, "Ernie, please, don't give me any bills." __ __
10. My friend visit New Orleans last year. __ __
11. Ernie will go to the post office after breakfast tomorrow. __ __
12. Bill are a very good cab driver. __ __
13. Tomorrow, he drive to the neighborhood on his route. __ __
14. Jane learn Spanish in high school ten years ago. __ __
15. Tomorrow, he sort mail for the customers in his area. __ __
16. He'll walk around the neighborhood tomorrow. __ __

Appendix H: Assessment Tasks, Experiment 2

Reading Task (Version A)

Name: _____________Date administered: _______ Person administered ________

Read the story out loud

Next Year In New Orleans

Next year, Barbara Brown will live in New Orleans. She'll work at the City Bank from nine to five. She'll rent a small apartment uptown, and she'll take a bus to work. She will go to the bus stop at 8:30 in the morning and the bus will arrive in five minutes. She'll get to the bank in ten minutes. Barbara will never be late for work.

Barbara will like to have a late lunch at around 2:00 p.m. She'll eat a turkey sandwich or a chicken salad for lunch. She'll also drink a cup of coffee. After lunch she will hurry back to work.

After work, she will spend some time with her new friends. She'll play tennis or basketball. Sometimes, she will swim in the pool. In the evening Barbara will read her favorite magazines and she'll listen to the news.

Last year, Barbara lived in New York. She worked every day from nine to five. She rented an apartment far from her job, and she always took the subway to work. She went to the train station at 8:30 a.m. and arrived to work in ten minutes. She got to the office before 9:00 a.m. She was always on time for work.

She had a late lunch at her favorite cafe. She usually ate a turkey sandwich and drank a cup of coffee. After lunch she hurried back to work.

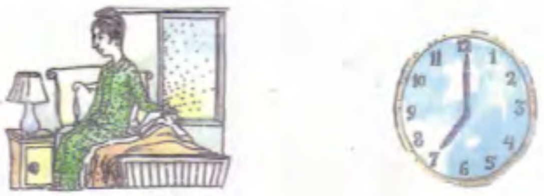
After work, she spent a few hours with her friends. She played tennis or basketball. Sometimes, she swam in the pool. In the evening, when she was back home, Barbara read her favorite magazines and listened to music.

Appendix H: Assessment Tasks, Experiment 2

Picture Description Task (Version A)

Tomorrow, Jane

1.



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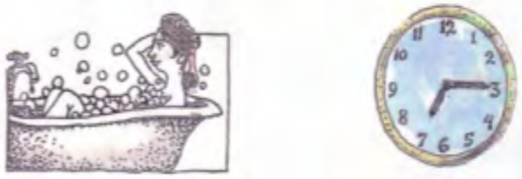
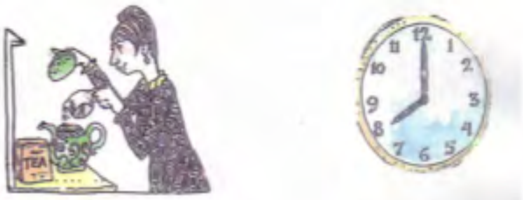
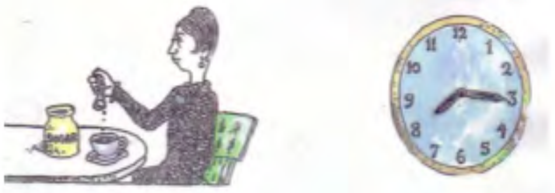


3.



4.



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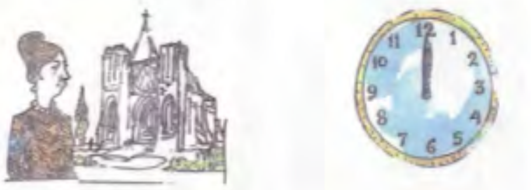
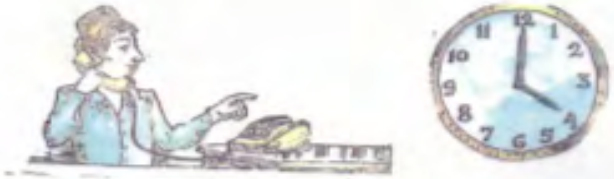


Appendix H: Assessment Tasks, Experiment 2

Picture Description Task (Version A), cont.

6.

7.



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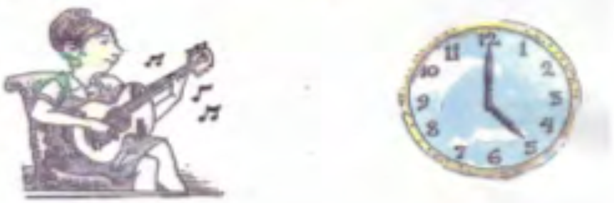

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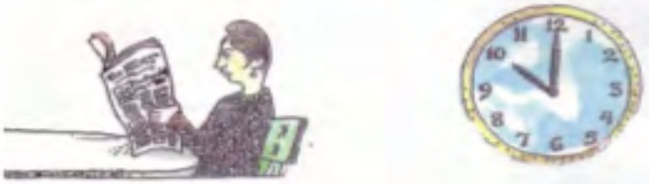

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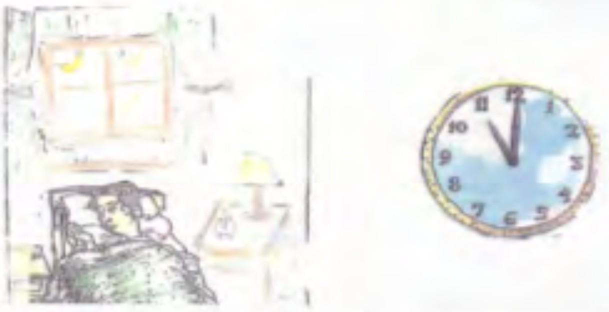
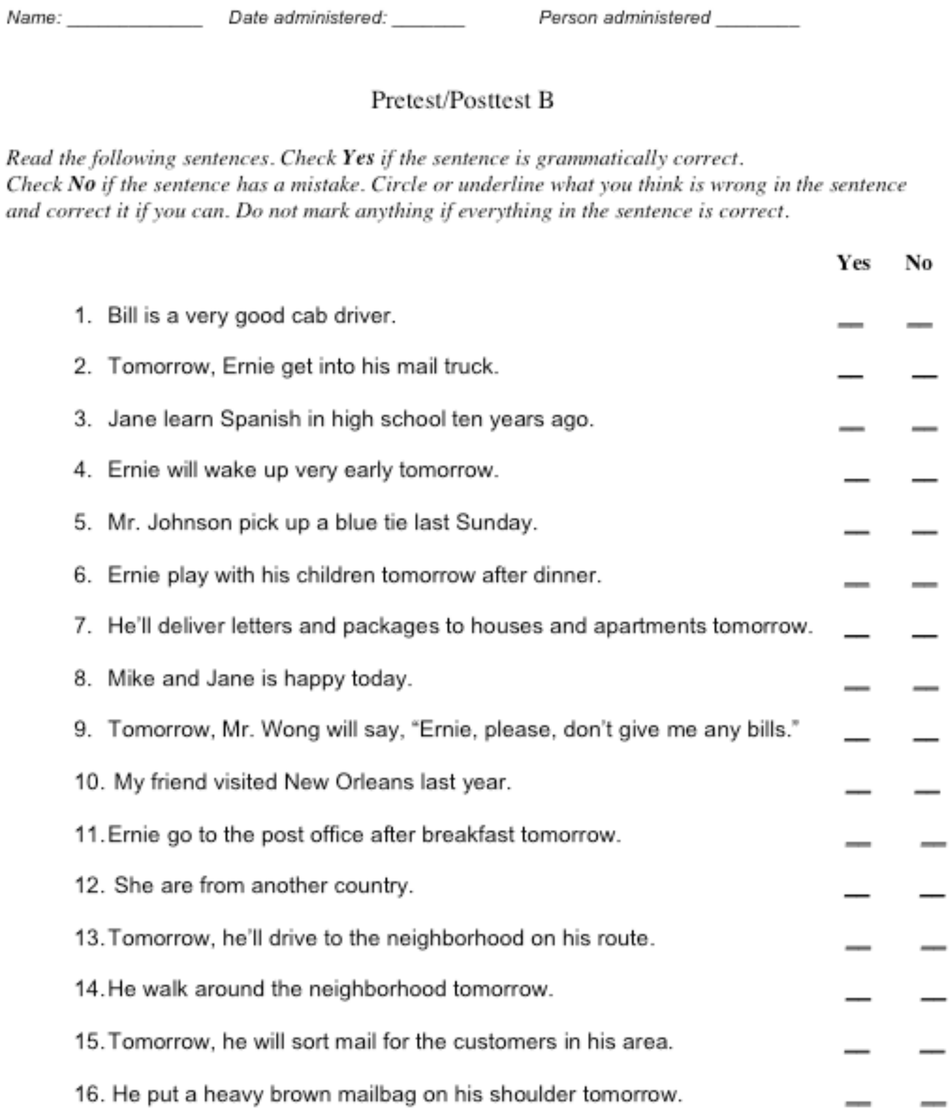


Appendix H: Assessment Tasks, Experiment 2

Grammaticality Judgment Task (Version B)



Name: ______________ *Date administered:* ________ *Person administered* _________

Pretest/Posttest B

Read the following sentences. Check ***Yes*** *if the sentence is grammatically correct.*
Check ***No*** *if the sentence has a mistake. Circle or underline what you think is wrong in the sentence and correct it if you can. Do not mark anything if everything in the sentence is correct.*

Yes **No**

1. Bill is a very good cab driver. ___ ___
2. Tomorrow, Ernie get into his mail truck. ___ ___
3. Jane learn Spanish in high school ten years ago. ___ ___
4. Ernie will wake up very early tomorrow. ___ ___
5. Mr. Johnson pick up a blue tie last Sunday. ___ ___
6. Ernie play with his children tomorrow after dinner. ___ ___
7. He'll deliver letters and packages to houses and apartments tomorrow. ___ ___
8. Mike and Jane is happy today. ___ ___
9. Tomorrow, Mr. Wong will say, "Ernie, please, don't give me any bills." ___ ___
10. My friend visited New Orleans last year. ___ ___
11. Ernie go to the post office after breakfast tomorrow. ___ ___
12. She are from another country. ___ ___
13. Tomorrow, he'll drive to the neighborhood on his route. ___ ___
14. He walk around the neighborhood tomorrow. ___ ___
15. Tomorrow, he will sort mail for the customers in his area. ___ ___
16. He put a heavy brown mailbag on his shoulder tomorrow. ___ ___

Appendix H: Assessment Tasks, Experiment 2

Reading Task (Version B)

Name: ____________Date administered: ______ Person administered _______

Read the story out loud

Next Year In New York

Next year, Rick Hill will live in New York. He'll work at the Hilton Hotel from ten to six. He'll rent a nice apartment downtown and he'll take the subway to work. He will go to the train station at 9:00 a.m. and the train will arrive in five minutes. He'll get to the hotel in twenty minutes. Rick will never be late for work.

Rick will like to have an early lunch at noon. He'll eat soup and salad and he'll drink a glass of orange juice. After lunch he will hurry back to work.

After work, he will spend a few hours with his new friends. He'll play baseball or basketball. Sometimes, he will swim in the pool. In the evening, Rick will read his favorite books and he'll listen to music.

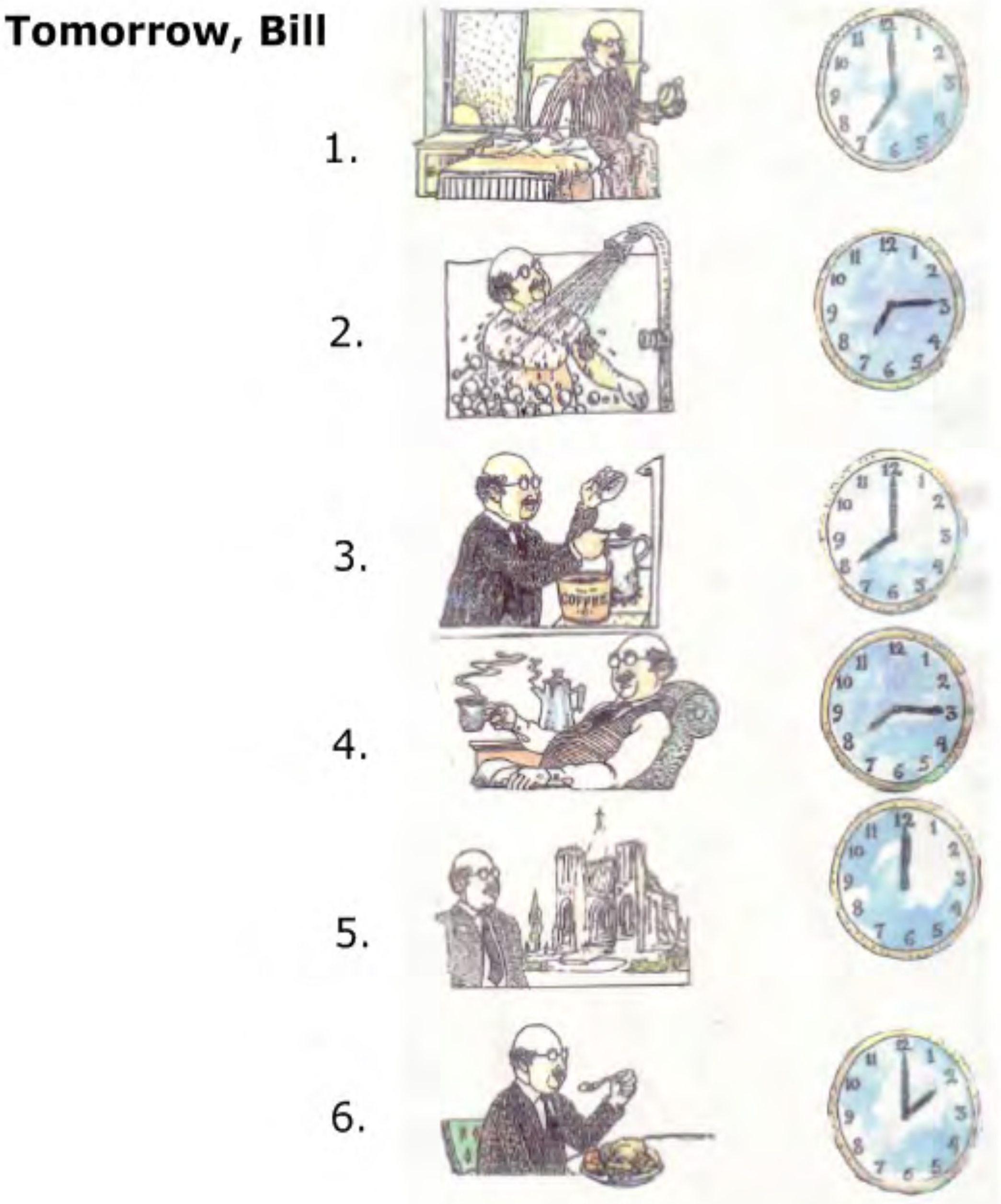
Last year, Rick lived in New Orleans. He worked at the Marriott Hotel from noon to six every day. He rented an apartment far from the hotel, and he always took a bus to work. He went to the bus station at 11:00 a.m. and the bus arrived in five minutes. He got to the hotel in twenty minutes. He was always on time for work.

Usually, Rick had a late lunch at 2:00 p.m. He always ate a ham sandwich and drank a cup of coffee for lunch. After lunch he hurried back to work.

After work, he swam in the pool. Sometimes, he spent an hour with his friends. He played cards and listened to music. Every night before going to bed, Rick read his favorite magazines.

Appendix H: Assessment Tasks, Experiment 2

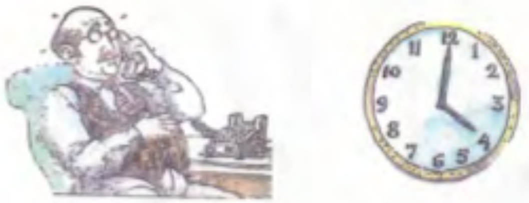
Picture Description Task (Version B)



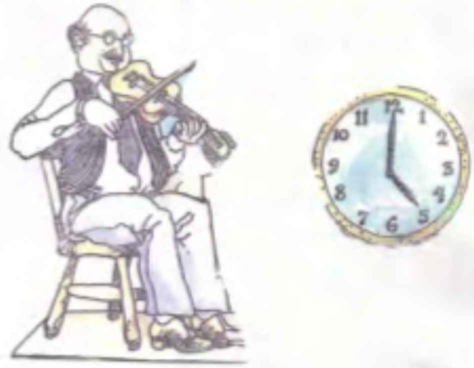
Appendix H: Assessment Tasks, Experiment 2

Picture Description Task (Version B), cont.

7.



8.



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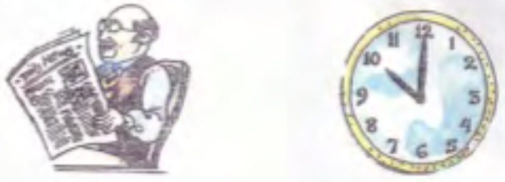
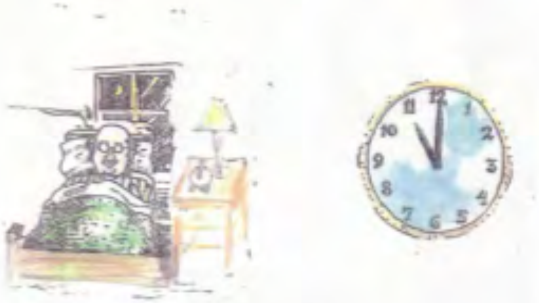


10.



Appendix I: Samples of Participants' PDT Responses & Scoring, Experiment 1

Sbj.	Gr.	Test	Pic.	Picture Description	Pts.	Sc.
JC	E	Pre	1	Mr. Bill| He get up at seven o'clock||	0	0
		B	2	An' he take shower||	0	
			3	An' he make his coffee at eigh' o'clock||	0	
			4	He drink a coffee||	0	
			5	An' den he go to de churt for twelve||	0	
			6	An' eat at two o'clock||	0	
			7	He talkin' on de phone at four||	0	
			8	He play| ah| play music at fie||	0	
			9	Mr. Bill| he read newspaper at ten||	0	
			10	He go sleep at eleven||	0	
JC		Post A	1	Jane| Every Sunday| Jane get up|| seven o'clock||	0	6
			2	An' Jane take her bat seven fifteen||	0	
			3	Jane make her coffee| make her tea at eigh'||	0	
			4	She put some sugar in de tea or what||	0	
			5	She goes to churt at twelve||	2	
			6	She's eats his lunch at two||	1	
			7	She is on de phone for four o'clock||	2	
			8	She play music at fie||	0	
			9	Jan's reads her newspaper at ten o'clock||	1	
			10	Jan go to bed at eleven||	0	
JC		Del.	1	Every Sunday| Bill get off|| at seven||	0	0
		B	2	An' Bill take shower seven fifteen||	0	
			3	Bill| fix some coffee at eigh' o'clock||	0	

Appendix I: Samples of Participants' PDT Responses & Scoring, Experiment 1, cont.

			4	He drink| coffee for eigh' fifteen||	0	
			5	An' Bill be at| at churt for twelve o'clock||	0	
			6	An' he take his lunch for twelve o'clock||	0	
			7	He| ah| answer de phone four o'clock||	0	
			8	He play gui| guitar at fie o'clock|| Ah play music at fie o'clock||	0	
			9	He read newspaper at ten o'clock||	0	
			10	An' he go to de bed at eleven o'clock||	0	
RS	E	Pre	1	Jane wake up lookin' at her clock||	0	0
		A	2	She sit in a tub seven fifteen||	0	
			3	She put somet'in' make tea||	0	
			4	An' fix her cup| drinkin' a tea ||	0	
			5	She in de street| go pray||	0	
			6	She take lunch at two||	0	
			7	Four o'clock| she on de phone call somebody||	0	
			8	She play guitar at fie||	0	
			9	She read a newspaper||	0	
			10	She go to de bed||	0	
RS		Post	1	Bill is gets up at seven||	1	6
		B	2	An' den he is take a shower||	0	
			3	He's makes a coffee||	1	
			4	He's drink his coffee||	0	
			5	An' he's goes to churt I t' ink||	1	
			6	He den| he's eats lunch at two||	1	
			7	He's sits callin' some his frien's||	1	
			8	He's plays| Ah I don' know| guitar||	1	
			9	He readin' newspaper||	0	
			10	He is go to bed up eleven||	0	

Appendix I: Samples of Participants' PDT Responses & Scoring, Experiment 1, cont.

<table>
<tr><td>RS</td><td></td><td>Del. A</td><td>1</td><td>Jane get up at seven||</td><td>0</td><td>0</td></tr>
<tr><td></td><td></td><td></td><td>2</td><td>An' she take a bat||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>3</td><td>Make a coffee||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>4</td><td>Drink her coffee||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>5</td><td>She go to churt||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>6</td><td>She take lunch at two||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>7</td><td>She's look like at work on phone||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>8</td><td>She is play guitar ||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>9</td><td>She is read newspaper||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>10</td><td>She go to bed||</td><td>0</td><td></td></tr>
<tr><td>NB</td><td>E</td><td>Pre B</td><td>1</td><td>Every Sunday| Bill wake up from bed at seven in de mornin'||</td><td>0</td><td>0</td></tr>
<tr><td></td><td></td><td></td><td>2</td><td>He take shower||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>3</td><td>He makin' his coffee at eigh' o'clock||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>4</td><td>Every Sundays| ei fifty| he sittin' drinkin' coffee||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>5</td><td>An' every Sundays| 'roun' noon | he is dress up go to churt||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>6</td><td>An' every Sunday 'roun' noon | two o'clock | Bill eat his dinner ah lunch||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>7</td><td>An' every Sunday 'roun' four o'clock Bill call some frien's||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>8</td><td>An' also every Sundays| he's aroun' fie he play ah music||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>9</td><td>An' 'round ten every Sundays he read his book ||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>10</td><td>'roun' eleven every Sundays he| he sleep in his bed||</td><td>0</td><td></td></tr>
</table>

Appendix I: Samples of Participants' PDT Responses & Scoring, Experiment 1, cont.

NB		Post A	1	Every Sundays Miss Jan wakes up at seven||	2	12
			2	Every Sundays she takes bat seven fifteen ||	2	
			3	She makes a tea at eigh' o'clock||	2	
			4	An' eigh' fifteen she puttin' sugar in her tea||	0	
			5	An at twelve she's prays in de churt||	1	
			6	She eats lunch at two p. m.||	2	
			7	At four | she telephonin' some frien'||	0	
			8	At fie she plays her guitar||	2	
			9	Ten a. m. | she's reads her book||	1	
			10	An' at eleven she is be sleepin' in her bed||	0	
NB		Del B	1	Every Sundays Mr. Bill wake up at seven o'clock||	0	1
			2	He is take a shower||	0	
			3	He make him a cup of coffee||	0	
			4	He's put sugar in his coffee||	0	
			5	He is be in churt at noon every Sundays||	0	
			6	He's eat his lunch||	0	
			7	Evey Sundays he is talk on de phone||	0	
			8	He is play music at aroun' fie every Sundays||	0	
			9	He's reads his newspaper at ten p. m. every Sundays||	1	
			10	Eleven o'clock| he goin' to sleep||	0	
RMP	C	Pre A	1	Jane wake up lookin' her clock	0	0
			2	She take a bat seven fifty	0	
			3	She make something make her tea	0	
			4	An' ah fix her cup	0	
			5	She go pray	0	
			6	She sit down eat two o'clock	0	

Appendix I: Samples of Participants' PDT Responses & Scoring, Experiment 1, cont.

		7	Jane she| she do somet'ing| She migh' call somebody||	0	
		8	She play music at fie||	0	
		9	She read some paper ten o'clock||	0	
		10	Eleven o'clock she in bed sleepin'||	0	
RMP	Post B	1	Every day he put his alarm clock for seven o'clock in de mornin'||	0	0
		2	An' den he is take a shower||	0	
		3	He make his tea| Ah| I mean coffee||	0	
		4	He drink coffee||	0	
		5	An' den he go out to work||	0	
		6	He eat some linch| or may be breakfas'||	0	
		7	He talk on de phone||	0	
		8	He play music||	0	
		9	He read a newspaper||	0	
		10	An' den| he go to bed||	0	
RMP	Del. A	1	She sit down in bed quiet||	0	0
		2	She take a bat||	0	
		3	Eigh' fifteen she fix her tea||	0	
		4	Jane put sugar in her tea||	0	
		5	Twelve o'clock she pray in de churt||	0	
		6	She eat lunch||	0	
		7	She dial a number on her phone||	0	
		8	She play music at fie||	0	
		9	She read a newspaper in de evenin'||	0	
		10	She sleepin' at eleven o'clock||	0	

Appendix I: Samples of Participants' PDT Responses & Scoring, Experiment 1, cont.

<table>
<tr><td>DMJ</td><td>C</td><td>Pre</td><td>1</td><td>Every Sunday Bill pray in de mornin'||</td><td>0</td><td>0</td></tr>
<tr><td></td><td></td><td>B</td><td>2</td><td>He take a shower||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>3</td><td>Make his coffee eigh' o'clock||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>4</td><td>Eigh' fifteen he sit drink his coffee</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>5</td><td>He |What he doin'| He go some place||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>6</td><td>He eat lunch or dinner||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>7</td><td>He call a frien' or I don' know||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>8</td><td>He play some music at fie||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>9</td><td>Ten p.m.| he read his favorite newspaper||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>10</td><td>He in bed eleven||</td><td>0</td><td></td></tr>
<tr><td>DMJ</td><td></td><td>Post</td><td>1</td><td>She get up seven o'clock every day||</td><td>0</td><td>0</td></tr>
<tr><td></td><td></td><td>A</td><td>2</td><td>Go take a shower||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>3</td><td>She make her tea||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>4</td><td>She put sugar an' drinkin'||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>5</td><td>She walk may be||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>6</td><td>An' she's sat down Ah guess back home||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>7</td><td>She talk on de phone||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>8</td><td>She's play music||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>9</td><td>Now she readin' somet'in'||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>10</td><td>She sleep||</td><td>0</td><td></td></tr>
<tr><td>DMJ</td><td></td><td>Del. B</td><td>1</td><td>Every Sunday he put his alarm clock for seven in de mornin'||</td><td>0</td><td>0</td></tr>
<tr><td></td><td></td><td></td><td>2</td><td>An' he's sat down take a shower||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>3</td><td>He fix his coffee||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>4</td><td>He sit drinkin' his coffee||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>5</td><td>He go pray||</td><td>0</td><td></td></tr>
<tr><td></td><td></td><td></td><td>6</td><td>Over here| he sat down at de table| eat his breakfas'||</td><td>0</td><td></td></tr>
</table>

Appendix I: Samples of Participants' PDT Responses & Scoring, Experiment 1, cont.

7	Four o'clock he is get on de phone an' talk||	0
8	After dat| he is play music||	0
9	Ten o'clock| he read a newspaper||	0
10	Eleven p. m.| he's be sleepin'||	0

Notes:

Sbj. = Subject
Gr. = Group (E = Enhanced; C = Control)
Pic. = Picture
Pts. = Points
Sc. = Score
Pre. = Pretest
Post. = Post-test
Del. = Delayed Post-test

Appendix J: Samples of Participants' FRT Responses & Scoring, Experiment 1

<table>
<tr><th>Sbj.</th><th>Gr.</th><th>Test</th><th>Idea Units</th><th>OC</th><th>SOC</th><th>OS</th><th>Sc.</th></tr>
<tr><td>RV</td><td>E</td><td>Pre.</td><td>(1) She's never workin' Sunday||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>A</td><td>(2) Take a shower an' ah:| |</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(3) She read her bible||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(4) an' she cook Haitian food||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(5) She cook good||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Total</td><td></td><td>5</td><td></td><td></td><td>0</td></tr>
<tr><td>RV</td><td></td><td>Post</td><td>(1) Mah wife work||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>B</td><td>(2) She working in de hotel| downtown||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(3) After she get up|</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(4) She go work every day||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Total</td><td></td><td>4</td><td></td><td></td><td>0</td></tr>
<tr><td>RV</td><td></td><td>Del.</td><td>(1) Mah wife go to churt||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>A</td><td>(2) She never work on Sunday||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(3) She work Saturday dough||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(4) She drive cab||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(5) But on Sunday| she get up late||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(6) She make breakfas' firs'||</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(7) An' ah she go to churt for twelve|</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(7) After churt she go home|</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(8) watch TV|</td><td>✓</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>(9) Before| she workin' in de restaurant||</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Total</td><td></td><td>8</td><td></td><td></td><td>0</td></tr>
</table>

Appendix J: Samples of Participants' FRT Responses & Scoring, Experiment 1, cont.

CM	E	Pre.	(1) Jus' ah:| wake up||	✓		
		B	(2) Take a ba:t||	✓		
			(3) Ah guess| eatin'||	✓		
			(4) Eat his breakfas'||	✓		
			(5) Ready for go to school||	✓		
			(6) He go togeder wit' frien's||	✓		
		Total		6		0
CM		Post.	(1) My husban' go to churt||	✓		
		A	(2) Ah:| never work on Sunday||	✓		
			(3) My husban' have dis churt in de Algiers||	✓		
			(4) He::: ah twen'y| twen'y-two| tweny-four years here||			
			(5) Da's Haitian churt||	✓	1	
			(6) Das's ah big churt||	✓	1	
			(7) Every time mah husban' talk to| dis lady| Spanish||	✓		
			(8) but ah::: is ahhh anoder churt|	✓	1	
		Total		7	3	0.4
CM		Del.	(1) He like school||	✓		
		B	(2) But he don' listen to teacher||	✓		
			(3) Mah son, J., he like music||	✓		
			(4) He play jum [drums] very good|	✓		
			(5) He VERY good|	✓		
			(6) When he go to class| when he WEN' to class||			
			(7) he play piano||			
			(8) But he have keyboar' at home||	✓		
		Total		6		0

Appendix J: Samples of Participants' FRT Responses & Scoring, Experiment 1, cont.

JC	E	Pre.	(1) Mah wife in Haiti now||	✓		
		B	(2) She got a cousin got married|	✓		
			(3) But mah country bad now||	✓		
			(4) Bad| VERY bad||	✓		
		Total		4		0
JC		Post	(1) Mah sister work hard||	✓		
		A	(2) She drive a cab now||	✓		
			(3) She make breafas' firs'||	✓		
			(4) She make breakfast for mah fa:der||	✓		
			(5) She go to churt every Sunday||	✓		
			(6) Now she go anoder churt|	✓		
			(7) Before| she go de same churt|			
			(8) but she got Haiti||			
			(9) She married for de man||			
			(10) He's jus' Catolic||	✓	1	
			(11) She go anoder churt now||	✓		
			(12) She go dere wit him||	✓		
			(13) have same| same building||	✓		
			(14) have churt for American||	✓		
			(15) have anoder churt American black||	✓		
			(16) have Spanish| same building||	✓		
		Total		13	1	.08
JC		Del	(1) She come back from Haiti las' week||			
		B	(2) She back to work||	✓		
			(3) She don' work four week||			

Appendix J: Samples of Participants' FRT Responses & Scoring, Experiment 1, cont.

			(4) Now she's drives cab every day||	✓	1	
			(5) She get up early an' ah|	✓		
			(6) An' she come home early too||	✓		
			(7) She pick up mah son an'	✓		
			(8) Ah: she go home||	✓		
			(9) She cook I guess||	✓		
			(10) She do laundry too||	✓		
			(11) But Sunday she off||	✓		
			(12) She's goes to churt on Sunday||	✓	1	
			(13) I go to churt wid mah wife sometime||			
			(14) Sometime Ah work on Sunday||			
			(15) Mah son like go to churt wit her||	✓		
			(16) Sometime| he go togeder wit friens||	✓		
			(17) He play ah guitar in churt'||	✓		
		Total		13	2	.07
RMP	C	Pre. A	(1) Every Sunday| he get up at eleven||	✓		
			(2) Go to churt ||	✓		
			(3) After churt| he go home||	✓		
			(4) watch TV||	✓		
			(5) An' read his bible before bedtime||	✓		
		Total		5		0
RMP		Post B	(1) Mah husban' work every day||	✓		
			(2) He work three job||	✓		
			(3) I tell him quit one||			

Appendix J: Samples of Participants' FRT Responses & Scoring, Experiment 1, cont.

			(4) Mah daughter tell him quit||	✓	
			(5) He don' listen||	✓	
			(6) He don' listen nobody||	✓	
			(7) He don' care||	✓	
		Total		6	0
RMP		Del.	(1) Every Sunday he get up late||	✓	
		A	(2) Sometime| he work Sunday||	✓	
			(3) Sometime| he go to churt||	✓	
			(4) He like go to churt wit me||	✓	
		Total		4	0
DMJ	C	Pre	(1) Oh| he work every day||	✓	
		B	(2) He go airport||	✓	
			(3) Mah husban'| he dri'e cab||	✓	
			(4) I get up early too		
			(5) I make breakfas' firs'|		
			(6) make breakfast for his fader|		
			(7) He like mah cookin'||	✓	
				4	0
DMJ		Post.	(1) Mah husban' go to churt||	✓	
		A	(2) He never work on Sunday||	✓	
			(3) My husban' work Saturday dough||	✓	
			(4) He drive a cab||	✓	
			(5) But on Sunday he get up late||	✓	
			(6) He go to churt for twelve||	✓	
			(7) after churt he go home||	✓	
			(8) watch TV||	✓	

Appendix J: Samples of Participants' FRT Responses & Scoring, Experiment 1, cont.

<table>
<tr><td></td><td></td><td>(9) Before| he workin' in de restaurant||</td><td></td><td></td></tr>
<tr><td></td><td>Total</td><td></td><td>8</td><td>0</td></tr>
<tr><td>DMJ</td><td>Del.</td><td>(1) Firs' place| he get up|</td><td>✓</td><td></td></tr>
<tr><td></td><td>B</td><td>(2) take a shower||</td><td>✓</td><td></td></tr>
<tr><td></td><td></td><td>(3) He go to work||</td><td>✓</td><td></td></tr>
<tr><td></td><td></td><td>(4) He go bible school on Wednesday||</td><td>✓</td><td></td></tr>
<tr><td></td><td></td><td>(5) Sometime he don'||</td><td>✓</td><td></td></tr>
<tr><td></td><td></td><td>(6) Yesterday he come home straigh'||</td><td></td><td></td></tr>
<tr><td></td><td></td><td>(7) Call his frien'| or whatever||</td><td></td><td></td></tr>
<tr><td></td><td>Total</td><td></td><td>5</td><td>0</td></tr>
</table>

Notes:

Sbj. = Subject
Gr. = Group (E = Enhanced; C = Control)
OC = Obligatory Context
SOC = Suppliance in Obligatory Contexts
OS = Oversuppliance
Sc. = Score
Pre. = Pretest
Post. = Post-test
Del. = Delayed Post-test

Appendix K: Samples of Participants' PDT Responses & Scoring, Experiment 2

Sbj.	Gr.	Test	Pic.	PDT	Pts.	Sc.
MDJ	E	Pre	1	Jane| Tomorrow Jane get up| seven o’clock||	0	0
		A	2	An' she take a bat||	0	
			3	She fix some tea at eigh'||	0	
			4	She put some sugar in de tea or what||	0	
			5	An' den she go to de churt for twelve||	0	
			6	An' eat at two o’clock||	0	
			7	She talkin' on de phone at four||	0	
			8	She play music at fie||	0	
			9	She read newspaper at ten||	0	
			10	She go sleep at eleven||	0	
MDJ		Post	1	Tomorrow| he will wake up at seven a.m.||	2	20
		B	2	An' he will take a bat'| seven fifteen||	2	
			3	He will make coffee at eigh' o'clock|	2	
			4	He will drink coffee at eigh' fifteen|	2	
			5	He will| ah| go to churt at twelve noon||	2	
			6	He will take| eat lunch at two p.m.||	2	
			7	Dis is still tomorrow? Tomorrow| he will call his frien' at four o'clock| at four p.m. ||	2	
			8	He will play ah| violin at fie||	2	
			9	He will| He will read newspaper at ten||	2	
			10	He is go to b-| He WILL go to bed at eleven a.m.| no eleven p. m. ||	2	
MDJ		Del.	1	Tomorrow| Jane get off|| at seven||	0	2
		A	2	An' Jane will taken her bat seven fifteen||	1	
			3	Jane| make her coffee| make her tea at eigh' o'clock||	0	

Appendix K: Samples of Participants' PDT Responses & Scoring, Experiment 2, cont.

		4	Jane drink| a tea for eigh' fifteen||	0	
		5	An' Jane be at| at churt for twelve o'clock||	0	
		6	An' she take her lunch for twelve o'clock||	0	
		7	She| ah| answer de phone four o'clock||	0	
		8	She play gui| guitar at fie o'clock|| Ah play music at fie o'clock||	0	
		9	She will readin' newspaper at ten o’clock||	1	
		10	She go to de bed at eleven o’clock||	0	
JCC	Pre	1	Tomorrow| Jame wen' to de bed|| eigh' o'clock|	0	0
	A		NO| seven o'clock||		
		2	An' den seven fifty| Jim wen' to de shower||	0	
		3	An' den eigh' o'clock Jam fix some coffee||	0	
		4	Eigh' fifty| Jan make her coffee||	0	
		5	Den twel' o'clock| Jim wen' to de churt||	0	
		6	Two o'clock| Jim have lunch||	0	
		7	An' four o'clock Jim on de phone||	0	
		8	Fie o'clock| Jan play music||	0	
		9	Ten o'clock| Jim read newspaper||	0	
		10	Eleven o'clock she go to bed||	0	
JCC	Post	1	Tomorrow| Mr. Bill| He'll get up at seven o'clock||	2	16
	B	2	An' he will taken his shower||	1	
		3	An' he will make his coffee at eigh' o'clock||	2	
		4	He will drink his coffee||	2	
		5	He will go to churt at twelve||	2	
		6	He'll eat his lunch at two||	2	
		7	He will on de phone for four o’clock||	1	
		8	He play music at fie||	0	
		9	He will read his newspaper at ten o'clock||	2	
		10	He will go to bed at eleven||	2	

Appendix K: Samples of Participants' PDT Responses & Scoring, Experiment 2, cont.

JCC	Del. A	1	Jane| ah:| Jan gettin' up eigh' o'clock| seven o'clock||	0	6
		2	An' den| seven fifteen| Jim wen' to de shower||	0	
		3	An' den| eigh' o'clock| Jam will wen' de kitchen| fix up some coffee||	1	
		4	An' ah| Mm |eigh' fifteen| Jan to de dinin' room got to mix her coffee||	0	
		5	Den| tw| twelve o'clock Jim wen' to de church||	0	
		6	Two o'clock| Jim will wen' to lunch||	1	
		7	An' four o'clock| Jim at work| at ah| at conversations with her supervisor||	0	
		8	Fie o'clock| Jan will at home| at her lunch time play music||	1	
		9	Ten o'clock| Jim will read newspaper the las' times ten o'clock at nigh'||	2	
		10	An' den eleven o'clock| she will goin' to bed to sleep||	1	
BA	Pre B	1	Tomorrow mornin'| Bill probably wake up to go to work||	0	0
		2	He would have to take a shower at seven fifty||	0	
		3	Tomorrow| tomorrow mornin' Bill has to make some tea before he go to work||	0	
		4	Tomorrow mornin'| Bill has to put some sugar in his tea| or may be before he drinkin' |whatever||	0	
		5	Tomorrow at twelve| Bill have to go to| go to church||	0	
		6	Tomorrow| it's not mornin' any more| Tomorrow| Bill should get his lunch at two o’clock||	0	
		7	He have to make a phone call at four||	0	
		8	Tomorrow| Bill has to play music at fie o’clock||	0	
		9	An' tomorrow| Bill read his newspaper aroun' two o'clock||	0	
		10	Tomorrow nigh'| 'roun' twelve| 'roun' eleven o'clock| Bill has to go to sleep|| to get some res'||	0	

Samples of Participants' PDT Responses & Scoring, Experiment 2, cont.

BA		Post A	1	Tomorrow| Jane| will set up| her clock| for seven o'clock||	2	11
			2	Tomorrow| Jan would have| to take a shower at seven fifty||	0	
			3	Tomorrow mornin' Jane will make her cup| a cup hh cup of coffee||	2	
			4	She will sit down| wit a cup of coffee| on her couch at seven| at eigh' fifteen||	2	
			5	OK| an' tomorrow| she will have to go to church at twelve o'clock||	2	
			6	She ate her lunch at two o'clock||	0	
			7	Jan will have to make a phone call at four o'clock||	2	
			8	She practice her violin at fie o'clock||	0	
			9	She will read her daily news at ten o'clock||	2	
			10	She goin' to bed at ten eleven o'clock||	0	
BA		Del.	1	Sunday Bill| up about seven o'clock||	0	3
		B	2	An' ah| Bill | seven fifteen| Bill goin' take a shower||	0	
			3	Eigh' o'clock| Bill will wen' to de kitchen| makin' some coffee| fixin' some coffee||	1	
			4	An' ah eigh' fifteen| Bill wen' to de livin' room watchin' news||	0	
			5	An' twelve o'clock| Jim wen' to church||	0	
			6	Two o'clock after church| Jim get back home| eatin' his lunch||	0	
			7	Den Jim| four o'clock| Jan talkin' wit ah| his bes' frien'| at de telephone||	0	
			8	Fie o'clock| Jim will have relaxin'| play||	1	
			9	Ten o'clock| Jim readin' newspaper| 'bout ah politic history| job searchin's||	0	
			10	At eleven o'clock | Jim will wen' to de bed||	1	
RPL	C	Pre	1	Tomorrow| Jane sit down in de bed seven p. m.||	0	0
		A	2	She lay down in a tub seven fifteen||	0	
			3	Tomorrow| Jane drank a tea eigh' o'clock||	0	
			4	An' tomorrow| Jane drank a coffee eigh' fifteen||	0	

Appendix K: Samples of Participants' PDT Responses & Scoring, Experiment 2, cont.

		5	An' tomorrow| Jane go to churt twelve p. m.||	0	
		6	Tomorrow| Jane eat about two o'clock||	0	
		7	She talkin' on a phone four o'clock p. m.||	0	
		8	Tomorrow| Jane playin' piano| guitar fie o'clock p. m.||	0	
		9	She| she read newspaper ten o'clock p. m.||	0	
		10	She lay down in a chair| Ah tink she lay down in a bed| eleven o'clock p. m.||	0	
RPL	Post	1	Tomorrow Bill get up at seven| a.m.||	0	0
	B	2	He take shower at seven fifteen||	0	
		3	He make some coffee at eigh'| a. m.||	0	
		4	He drink some coffee at eigh' fifteen||	0	
		5	After dat he go to de church at twelve||	0	
		6	Back church| he eat| at two p.m. ||	0	
		7	He call his frien'| at four p.m. ||	0	
		8	He playin' music at fie||	0	
		9	He read de newspaper at ten||	0	
		10	An' back to bed at eleven||	0	
RPL	Del	1	Jane| Tomorrow Jane get off|| seven||	0	0
	A	2	An' Jane take her bat' seven fifteen||	0	
		3	Jane| make her coff-| make her tea at eigh' o'clock||	0	
		4	Jane take ah| drink a tea for eigh' fifteen||	0	
		5	An' Jane be at| at ah church for twelve o'clock||	0	
		6	An' she take her lunch for twelve o'clock||	0	
		7	She is| ah answer de phone four o'clock||	0	
		8	She play gui-| gui-| guitar at fie o'clock| She play music at fie||	0	
		9	She read newspaper at ten o'clock||	0	
		10	She go to de bed at eleven o'clock||	0	

Appendix K: Samples of Participants' PDT Responses & Scoring (Experiment 2), cont.

TS	C	Pre. B	1	Tomorrow| Bill sit down in de bed seven o'clock||	0	
			2	Tomorrow| Bill take shower seven fifteen||	0	
			3	Tomorrow| Bill drink coffee eigh' o'clock||	0	
			4	Tomorrow| Bill wash TV| eigh' fifteen||	0	
			5	Tomorrow| Bill go to walk| twelve o'clock||	0	
			6	Tomorrow| Bill ate salad two o'clock||	0	
			7	Tomorrow| Bill talk to his frien'| four o'clock||	0	
			8	Tomorrow| Bill play music at fie o'clock||	0	
			9	Tomorrow| Bill read newspaper at ten o'clock||	0	
			10	Tomorrow| Bill lay down sleepin' eleven o'clock||	0	
TS		Post A	1	Tomorrow| Jane| she wake up seven||	0	1
			2	Number two| She is take a bat' ah| She is take a bat' seven| seven somet'in'||	0	
			3	She drink some coffee or tea||	0	
			4	Eigh' o'clock she is drink some coffee eigh' fifteen||	0	
			5	She is at churt twelve o'clock| one o'clock| Look like one o'clock| Look like she sit down pray to me||	0	
			6	Look like she is eatin'| 2 o'clock| I have to say de time?	0	
			7	OK| She is on de telephone| She speakin' on de telephone| I have to say tomorrow?	0	
			8	OK| she'll playin' some guitar fie o'clock||	1	
			9	She is wake up| she is readin' newspaper||	0	
			10	She is ah| she is lay down on a bed| eleven o'clock||	0	
TS		Del. B	1	Tomorrow Bill| he wake up seven o'clock||	0	0
			2	He take a bat' seven fifteen||	0	
			3	Ah| he make coffee eigh' o'clock||	0	

Appendix K: Samples of Participants' PDT Responses & Scoring, Experiment 2, cont.

<table>
<tr><td>4</td><td>Sit down| drink some tea||</td><td>0</td></tr>
<tr><td>5</td><td>He is a churt twelve o'clock||</td><td>0</td></tr>
<tr><td>6</td><td>He's eatin' two o'clock||</td><td>0</td></tr>
<tr><td>7</td><td>He is on a telephone||</td><td>0</td></tr>
<tr><td>8</td><td>He is play guitar fie o'clock||</td><td>0</td></tr>
<tr><td>9</td><td>He is readin' ten o'clock||</td><td>0</td></tr>
<tr><td>10</td><td>He is sleepin' eleven o'clock||</td><td>0</td></tr>
</table>

Notes:

Sbj. = Subject

Gr. = Group (E = enhanced; C = Control)

Pic. = Picture

Pts. = Points

Sc. = Score

Appendix L: Samples of Participants' FRT Responses & Scoring, Experiment 2

Sbj.	Gr.	Test	IU	Idea Units	OC	CF	MF	AF	Sc.
MDJ	E	Pre	1	Nex' Sunday| I go to church||	1				
		A	2	An' I go visit my frien's||	1				
			3	A:n' after dat I'm comin' home||	1				
			4	a:n' stay||	1				
			5	watch TV||	1				
			6	go to sleep||	1				
		Total			6				0
MDJ		Post B	1	OK Tomorrow| What I should do tomorrow||	1			1	
			2	Well firs' place| I have to go work tonigh' at ah seven o'clock||	1			1	
			3	An' den | when I get off work|	1			1	
			4	I migh' be here about six o'clock in de MORnin'||	1			1	
			5	And after six o'clock| it's time for me to goin' to de bed||	1				
			6	And den | aroun' twelve o'clock| ten| ten o'clock| ten tirty| I am goin' to get up||	1			1	
			7	Give me cup coffee||	1			1	
			8	an' have my CIgarettes||	1			1	
			9	Yes| dat's what I do||	1				
			10	Dat's VERY good||					
			11	Dat's what I'm always did you know||					
			12	An' I'm after dat| de cigarette| I'm t'inkin to go back to de bed again||	1			1	
			13	to see if I have sleep||	1			1	

Appendix L: Samples of Participants' FRT Responses & Scoring, Experiment 2, cont.

			14	An' I mean after| after coffee break| after cigarette break| go back again to de bed ||	1			
			15	An' aroun' two ‘clock I migh' get up|	1		1	
			16	try to fin' me somet'ing to eat||	1		1	
			17	Dat's eatin' time||	1			
			18	An' take a shower||	1			
			19	Waitin' for my time to go to work again||	1			
			20	I t'ink dat's it||				
		Total			17		11	.32
MDJ		Del.	1	Sunday| I will wake up early | to go to walk||	1	1		
		A	2	I will get up by six o'clock||	1	1		
			3	'bout fifteen minute get to de shower||	1			
			4	An' I arrive in downtown||	1			
			5	Fin' me space to park||	1			
			6	If is possible| go to| buy me breakfas'||	1			
			7	An' by twelve| one o'clock| two o'clock I will fin' myself lench|	1	1		
			8	an' continue to walk||	1	1		
			9	I go my frien' talkin' callin'||	1			
			10	An' come back home about five six o'clock ||	1			
			11	An' take a shower |	1			
			12	go to church||	1			
			13	I lef' church by ten o'clock||	1			
		Total			13	4		.31
MCS	E	Pre	1	Me? When I’m woke up?	1			
		A	2	I| I do my laundry||	1			
			3	After laundry I come home||	1			
			4	make dinner||	1			

Appendix L: Samples of Participants' FRT Responses & Scoring, Experiment 2, cont.

			5	An' after I go to bible study||	1			
			6	an' come home||	1			
			7	In de evenin', I watch TV|	1			
			8	read my bible|	1			
			9	an' go to sleep||	1			
		Total			9			0
MCS		Post	1	Tomorrow| I wake up at seven	1			
		B	2	an' go to work||	1			
			3	Tomorrow is a mess day||	1		1	
			4	Because tomorrow is tirty firs'|	1		1	
			5	An' den de people Baton Rouge comin'|	1			
			6	De hotel will be busy|	1	1		
			7	Oh my GOD| dose people| dey sleep late|				
			8	mess| dirty||				
			9	Dey start comin' tomorrow||	1		1	
		Total			7	1	3	.36
MCS		A	1	Nex' Sunday |I tink I go somewhere||	1			
			2	I go Baton Rouge in Blue Bayou|	1			
			3	I tink so but I don' know yet||				
			4	July| mah husban' goin' to Haiti||	1			
			5	An' mah son go to Marylan' tomorrow||	1			
			6	An' I stay by myself||	1			
		Total			5			0
BA	E	Pre	1	Tomorrow I get up at eleven||	1			
		B	2	My back hurt me so bad||				
			3	I am goin' to de doctor||	1		1	
			4	I go to de doctor before twelve|	1			
			5	b'cause dey close twelve o'clock||	1			

Appendix L: Samples of Participants' FRT Responses & Scoring, Experiment 2, cont.

			6	to find out why is hurt me like dat||			
			7	Yesterday dey take twenty X-ray all my body||			
			8	to fin' out where de pain was comin' from||			
		Total			4	1	.13
BA		Post A	1	Nex' Sunday I get up late||	1		
			2	I'm off two od'er Sundays||	1	1	
			3	I have my breakfas' an'|	1		
			4	I'm hm| I'm goin' to churt||	1	1	
			5	After dat I go home||	1		
		Total			5	2	.2
BA		Del. B	1	So tomorrow? What I'm doin' tomorrow?	1	1	
			2	Well| When I'm woke up hm||	1		
			3	I migh' be cookin'||	1		
			4	If I am not cookin'||	1	1	
			5	I migh' be clean up de house||	1		
			6	May take care my children||	1	1	
			7	I migh' be go to de store shoppin'||	1		
			8	go to Winn Dixie||	1		
			9	buy somet'in'||	1		
			10	if I need some||	1	1	
			11	Ah migh' be call somebody|	1		
			12	if I need to||	1	1	
		Total			12	5	.17
RPL	C	Pre. A	1	I go to Florida nex' week visit our people Homestead||	1		
			2	My sisters live Homestead||			
			3	But we live| we stay Miami||	1		

Appendix L: Samples of Participants' FRT Responses & Scoring, Experiment 2, cont.

		4	We stay in de hotel||	1		
		5	We go to| we go| go to de beach||	1		
		6	We see| go to| go in de shop||	1		
		7	We migh' go Homestead one| may be one time visit my family||	1	1	
	Total			6		.08
RPL	Post B	1	What I should do tomorrow||	1	1	
		2	Tomorrow| tomorrow I| I would be busy||	1	1	
		3	We have a| a wake for E.||	1	1	
		4	Tomorrow is Friday||	1	1	
		5	You see| de wa| de wake|	1		
		6	So dey aksk me to cook for her||			
		7	I'm not goin' to de tin' [to the thing]	1	1	
		8	But I can do somet'in'| I can||	1	1	
		9	I can go to de house you know||	1	1	
	Total			8	7	.44
RPL	Del. A	1	Nex' Sunday I get up||	1		
		2	An' I goin' take a shower||	1		
		3	After dat I'm goin' de people||	1	1	
		4	E. goin' baptize her chil'||	1		
		5	An| de ba- | de girl | She goin' make de firs' commendment||	1		
		6	An' her husban' call||			
		7	aksk me||			
		8	if I can cook some| for her for him||	1		
		9	cause he like my cookin'||			
		10	I'm goin' try to fix some goat | some rice| some| some food for dem||	1	1	
		11	If dey rain||	1		

Appendix L: Samples of Participants' FRT Responses & Scoring, Experiment 2, cont.

			12	I'm not goin' to de t'in' [to the thing]||	1	1	
			13	call dem|	1		
			14	I jus' can' say no|			
			15	'cause dey migh t'ink		1	
			16	I'm mean||			
			17	But I'm really tired||			
			18	Saturday| I'm goin' started season my meat||	1	1	
		Total			12	4	.17
TS	C	Pre	1	Tomorrow? I go out to fin' a job			
		B		tomorrow||	1		
			2	I look hotel downtown||	1		
			3	Den I goin' back home||	1		
			4	I watchin' TV||	1		
			5	An' go to sleep||	1		
		Total			5		0
TS		Post	1	Nex' Sunday I' m go to church||	1		
		A	2	I go to church every Sunday||			
			3	After dat I'm comin' home|	1		
			4	eat somet'in'|	1		
			5	watch TV|	1		
			6	talkin' on de phone||	1		
			7	eat dinner||	1		
			8	go to bed||	1		
		Total			7		0
TS		Del.	1	Tomorrow I am goin' out work||	1	1	
		B	2	Ah:: When I woke up||	1		
			3	I take a shower||	1		
			4	An' after dat I put my clot'es on||	1		

Appendix L: Samples of Participants' FRT Responses & Scoring, Experiment 2, cont.

	5	An' go to work in my car||	1		
	6	After work when I finish||	1	1	
	7	I am comin' back home||	1		
	8	take a shower||	1		
	9	Eat somet'in' yah (laughs)||	1		
Total			9	2	.11

Notes:

Sbj. = Subject
Gr. = Group
IU = Number of each Idea Unit
OC = Obligatory content
CF = Correct form
MF = Malformed form
AF = Alternative form
Sc. = Score

GLOSSARY

Auxiliaries are functional counterparts of verbs. They are functors in that (unlike lexical verbs) they describe no specific action or event, but rather encode verb-related grammatical properties such as tense, mood, voice, and aspect.

Clitic is a form “which resembles a word, but which cannot stand on its own as a normal utterance, being phonologically dependent upon a neighboring word (its host) in a construction (Crystal, 2003b, p. 76).”

Creative aspect of language use refers to the human ability to produce and understand an infinite number of utterances they have never heard or said before. Creative aspect of language also implies that humans can construct an infinite number of utterances from a limited inventory of possible phonological, syntactic, and semantic categories.

Feature refers to the smallest structural unit expressing grammatical properties. There are phonetic features (e.g., [± voice]), (morpho)syntactic features (e.g.,[± past]), and semantic features (e.g.,[± animate]).

Feature strength ([± strong]) refers to a property of syntactic features which determines whether overt movement takes place. Features that are [+strong] motivate movement (e.g., verb movement to I).

φ-features are features involved in agreement, such as number, person, and gender.

Focus-on-form (FonF) techniques refer to pedagogical techniques that draw learner attention to form during communication-oriented instruction.

Focus-on-forms (FonFs) techniques refer to traditional grammar instruction with the focus on teaching isolated linguistic forms which include explicit instruction on how the targeted linguistic forms work.

Forms refer to the surface features of language that include verbal and nominal morphology as well as other functional items such as determiners, auxiliaries, pronouns, and other “non-content” words (VanPatten, 1996).

Fossilization refers to the cessation of L2 acquisition before the complete mastery of a native-speaker-level grammar, whereby the IL grammar is permanently non-native (White, 2003).

Functional categories convey grammatical information and typically have no descriptive content. Functional categories are Determiners (*a, the, my*, etc.), Complementizers (*that, which*, etc.), Auxiliary/Modals (*do, can, have*, etc.), Tense and Inflectional elements (past tense *–ed*, plural *–s*, etc.). Consequently, a main verb which takes Inflection is equated with an Inflectional Phrase (IP) and a noun that takes Inflection is a Determiner Phrase (DP). More on functional categories see Radford (1997, 2004).

Grammaticality Judgment Task (GJT) refers to the task where a learner has to decide whether the sentence is grammatical or ungrammatical.

Idea units are grammatically simple strings of short phrases and/or clauses. Idea units can be VPs, NPs, or PPs and some do not contain verbs (Luoma, 2004).

Immersion refers to the language teaching approach when L2 learners are provided with the opportunity to learn the TL through natural and meaningful situations. The TL is used as a language of instruction and means of communication.

Input refers to aural or written language data that are available to learners.

Input enhancement refers to any attempt to bring learner attention into focus by increasing the perceptual saliency of the input.

Input processing refers to the process(es) by which intake is derived from input.

Interlanguage (IL) refers to the language of L2 learners' (introduced by Selinker in 1969). In SLA research, IL is considered to be a linguistic system created in the course of language learning which is different from either the learner's L1 or the target language (TL) being acquired.

Lexical items fall into two categories: substantive and functional. Substantive categories, also known as contentives, carry semantic meaning or content which is independent of the sentences they occur in. This category is void of any functional inflection. Substantives include Nouns, Verbs, and Adjectives. Prepositions are a problem since they appear to belong to both substantive and functional categories. More on prepositions, see Froud (2001).

Linguistic competence is "linguistic knowledge underlying learners' language performance that is not necessarily available for conscious report" (Mandell, 1999, p. 75).

Logical Form (LF) refers to one of the two levels of representation within Minimalist Program, the other being Phonetic Form (PF). LF is the level of the propositional structural meaning representation.

Metalinguistic awareness is "the ability to think about and reflect upon the nature and functions of language" (Baker, 1993, p. 122).

L1 refers to first language, native language.

L2 refers to second language, non-native language.

Naturalistic acquisition studies refer to observing and recording L2 learners' speech in authentic interaction (e.g., children at play or interacting with parents or others; adults during interviews or conversations) without any form of interference or control.

Negative evidence refers to implicit or explicit information concerning the ungrammaticality of the learner's utterance.

Noticing refers to the process of bringing some stimulus into focal attention, whether consciously or subconsciously.

Output refers to learners' grammatical competence at any particular point (Corder, 1967). Output is generally inferred directly from what the learner says. Output is not truly a stage in the acquisition process but is more an overt manifestation of that process.

Positive evidence refers to evidence obtained by language learners from well-formed utterances to which they are exposed.

Text enhancement refers to any manipulation of typographical conventions, such as boldfacing, italicizing, underlining, highlighting, that is used to increase perceptual salience of a target form.

Transfer refers to the use of L1 features by speakers who are acquiring L2.

Universal Grammar (UG) is an innate biologically endowed language faculty which allows L1 learners to process and construct the target grammar.

Working memory (WM) refers to a "work space" in which an individual can consciously manipulate information and which is in a currently heightened state of activation.

BIBLIOGRAPHY

Abusch, D. (1997). Sequence of tense and temporal de re. *Linguistics and Philosophy, 20,* 1-50.

Adger, D. (2003). *Core syntax: A minimalist approach*. Oxford: Oxford University Press.

Alanen, R. (1995). Input enhancement and rule presentation in SLA. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 259-302). Honolulu: University of Hawaii Press.

Baddeley, A. (1995). Working memory. In M. Gazzaniga (Ed.), *The cognitive neurosciences* (pp. 755–764). Cambridge, MA: MIT Press.

Baddeley, A. (1999). *Essentials of human memory*. Hove, England: Psychology Press.

Baker, C. (1993). *Foundations of bilingual education and bilingualism*. Clevedon, UK: Multilingual Matters.

Barcroft, J., & VanPatten, B. (1997). Acoustic salience: Testing location, stress and the boundedness of grammatical form in second language acquisition input perception. In W. Glass & A. Pérez-Leroux (Eds.), *Contemporary perspectives on the acquisition of Spanish: Production, processing, and comprehension* (pp. 109-121). Somerville, MA: Cascadilla Press.

Bardovi-Harlig, K. (1997). Another piece of the puzzle: The emergence of the present perfect. *Language Learning, 47,* 375-422.

Bardovi-Harlig, K. (2000). *Tense and aspect in second language acquisition: Form, meaning, and use*. Malden, MA: Blackwell.

Bardovi-Harlig, K. (2004a). The emergence of grammaticalized future expression in longtitudinal production data. In B. VanPatten, J. Williams, S. Rott, & M. Overstreet (Eds.), *Form-meaning connections in second language acquisition* (pp. 115-137). Mahwah, NJ: Lawrence Erlbaum.

Bardovi-Harlig, K. (2004b). Monopolizing the future: How the *go*-future breaks into *will*'s territory and what it tells us about SLA. *EUROSLA Yearbook, 4*(1), 177-201.

Bardovi-Harlig, K. (2005). The future of desire: Lexical futures and modality in L2 English future expression. In L. Dekydtspotter, R. Sprouse, & A. Liljestrand (Eds.), *Proceedings of the 7th Generative Approaches to Second Language Acquisition Conference* (pp. 1-12). Somerville, MA: Cascadilla Proceedings Project.

Beck, M. (1998). L2 acquisition and obligatory head movement: English-speaking learners of German and the local impairment hypothesis. *Studies in Second Language Acquisition, 20*, 311-348.

Berglund, Y. (2005). *Expressions of future in present-day English: A corpus-based approach*. Uppsala, Sweden: Uppsala Universitet.

Berne, J. (2000). The impact of enhanced comprehensibility on conscious attention to form and content. *Spanish Applied Linguistics*, *4*, 133-159.

Bialystok, E. (1979). Explicit and implicit judgments of L2 grammaticality. *Language Learning*, *29*, 81-103.

Bialystok, E. (1981). The role of linguistic knowledge in second language use. *Studies in Second Language Acquisition, 4*(1), 31-45.

Bialystok, E. (1994). Analysis and control in the development of second language proficiency. *Studies in Second Language Acquisition, 16*, 157-168.

Bialystok, E. (1997). The structure of age: In search of barriers to second language acquisition. *Second Language Research*, *13*(2), 116-137.

Birch, B. (2002). *English L2 reading: Getting to the bottom*. Mahwah, NJ: Lawrence Erlbaum.

Birdsong, D. (1989). *Metalinguistic performance and interlinguistic competence*. Berlin: Springer-Verlag.

Birdsong, D. (1992). Ultimate attainment in second language acquisition. *Language, 68*(4), 706-755.

Bley-Vroman, R. (1990). The logical problem of foreign language learning. *Linguistic Analysis, 20*, 3-49.

Brown, R. (1973). *A first language: The early stages.* Cambridge, MA: Harvard University Press.

Carroll, S., & Swain, M. (1993). Explicit and implicit negative feedback: An empirical study of linguistic generalizations. *Studies in Second Language Acquisition*, *15*, 357-386.

Cenoz, J. (2003). The influence of age on the acquisition of English: General proficiency, attitudes and code mixing. In M. Garcia Mayo & M. Garcia Lecumberri (Eds.), *Age and the acquisition of English as a foreign language* (pp. 77-93). Clevedon, UK: Multilingual Matters.

Chall, J. (1983). *Stages of reading development*. New York: McGraw-Hill.

Chaudron, C. (1983). Research on metalinguistic judgments: A review of theory, methods, and results. *Language Learning, 33,* 343-377.

Chaudron, C. (1985). A method for examining the input/intake distinction. In S. Gass & C. Madden (Eds.), *Input in second language acquisition* (pp. 285-300). Cambridge, MA: Newbury House.

Chaudron, C. (2003). Data collection in SLA research. In C. Doughty & M. Long (Eds.), *The handbook of second language acquisition* (pp. 762-828). Malden, MA: Blackwell.

Chomsky, N. (1959). A review of B. F. Skinner's *Verbal Behaviour, 1957. Language, 35*, 26-58.

Chomsky, N. (1965). *Aspects of the theory of syntax*. Cambridge, MA: MIT Press.

Chomsky, N. (1975). *Reflections on language*. New York: Pantheon Books.

Chomsky, N. (1980). *Rules and representations.* Oxford: Blackwell.

Chomsky, N. (1986). *Knowledge of language: Its nature, origin and use.* New York: Praeger.

Chomsky, N. (1993). A minimalist program for linguistic theory. In K. Hale & S. Keyser (Eds.), *The view from building 20: Essays in linguistics in honor of Sylvain Bromberger* (pp. 1-52). Cambridge, MA: MIT Press.

Chomsky, N. (1995). *The minimalist program*. Cambridge, MA: MIT Press.

Chomsky, N. (1998). Minimalist inquiries: The framework. *MIT Occasional Papers in Linguistics, 15,* 1-56. Cambridge, MA: MIT Working Papers in Linguistics.

Chomsky, N. (2001). Derivation by phase. In M. Kenstowicz (Ed.), *Ken Hale: A life in language* (pp. 1-52). Cambridge, MA: MIT Press.

Chomsky, N. (2002). *On nature and language*. New York: Cambridge University Press.

Clahsen, H. (1988). Parameterized grammatical theory and language acquisition: A study of the acquisition of the verb placement and inflection by children and adults. In S. Flynn & W. O'Neil (Eds.), *Linguistic theory in second language acquisition* (pp. 47-75). Dordrecht: Kluwer.

Clahsen, H., & Muysken, P. (1989). The UG paradox in L2 acquisition. *Second Language Research, 5,* 1-29.

Close, R. (1977). Some observations on the meaning and function of verb phrases having future references. In W. Bald & R. Ilson (Eds.), *Studies in English usage: The resources of a present-day English corpus for linguistic analysis* (pp. 125-156). Frankfurt am Main: Peter Lang.

Condoravdi, C. (2002). Temporal interpretation of modals: Modals for the present and for the past. In D. Beaver, S. Kaufmann, B. Clark, & L. Casillas (Eds.), *The Construction of Meaning* (pp. 59-88). CSLI Publications.

Cook, V. (1991). The poverty of the stimulus argument and multi-competence. *Second Language Research, 7*(2), 103-117.

Cook, V. (1993). *Linguistics and second language acquisition.* London: Macmillan.

Cook, V. (1997). *Inside language*. London: Edward Arnold.

Cook, V., & Newson, M. (1996). *Chomsky's Universal Grammar: An introduction*. Oxford, UK: Blackwell.

Coppieters, R. (1987). Competence differences between native and nonnative speakers. *Language, 63*(3), 544-573.

Corder, S. (1967). The significance of learners' errors. *International Review of Applied Linguistics, 5,* 161-169.

Cowper, E. (2005). The geometry of interpretable features: INFL in English and Spanish. *Language, 81*(1), 10-46.

Crystal, D. (2003a). *The Cambridge encyclopedia of the English language.* New York: Cambridge University Press.

Crystal, D. (2003b). *A dictionary of linguistics and phonetics*. Fifth edition. Malden, MA: Blackwell.

Curtiss, S. (1988). Abnormal language acquisition and the modularity of language. In F. Newmeyer (Ed.), *Linguistics: The Cambridge survey. Linguistic theory: Extensions and applications* (pp. 90-116). Cambridge: Cambridge University Press.

Day, E., & Shapson, S. (1991). Integrating formal and functional approaches in language teaching in French immersion: An experimental study. *Language Learning, 41*(1), 25-58.

de Graaff, R. (1997). The Experanto experiment: Effects of explicit instruction on second language acquisition. *Studies in Second Language Acquisition, 19*(2), 249-276.

DeGraff, M. (2001). Morphology in Creole genesis: Linguistics and ideology. In M. Kenstowicz (Ed.), *Ken Hale: A life in language* (pp. 52-121). Cambridge, MA: MIT Press.

DeKeyser, R. (1995). Learning second language grammar rules: An experiment with a miniature linguistic system. *Studies in Second Language Acquisition, 17*, 379-410.

DeKeyser, R. (1998). Beyond focus on form: Cognitive perspectives on learning and practicing second language grammar. In C. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition (*pp. 42-63). New York: Cambridge University Press.

Dekydtspotter, L., Sprouse, R., & Anderson, B. (1997). The interpretive interface in L2 acquisition: The process-result distinction in English-French interlanguage grammars. *Language Acquisition*, *6*, 297-332.

Dickerson, L. (1975). The learner's interlanguage as a system of variable rules. *TESOL Quarterly, 9*(4), 401-407.

Dietrich, R., Klein, W., & Noyau, C. (Eds.) (1995). *The acquisition of temporality in a second language*. Amsterdam: John Benjamins.

Doughty, C. (1991). Second language instruction does make a difference: Evidence from an empirical study of SL relativization. *Studies in Second Language Acquisition, 13*(4), 431-469.

Doughty, C., & Valera, E. (1998). Communicative focus on form. In C. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp. 114-138). New York: Cambridge University Press.

Doughty, C., & Williams, J. (1998). Pedagogical choices in focus on form. In C. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp. 197-261). New York: Cambridge University Press.

Dulay, H., & Burt, M. (1974). Natural sequences in child second language acquisition. *Language Learning, 24*, 37-53.

Ellis, N. (1993). Rules and instances in foreign language learning: Interactions of implicit and explicit knowledge. *European Journal of Cognitive Psychology, 5*, 289-319.

Ellis, R. (1990). *Instructed second language acquisition*. Oxford: Blackwell.

Ellis, R. (1994). *The study of second language acquisition*. Oxford: Oxford University Press.

Ellis, R. (1995). Modified oral input and the acquisition of word meaning. *Applied Linguistics, 16*, 409-441.

Ellis, R. (2001). *SLA research and language teaching*. Oxford: Oxford University Press.

Enç, M. (1996). Tense and modality. In S. Lappin (Ed.), *Handbook on contemporary semantic theory.* Cambridge, MA: Blackwell.

Epstein, S., Flynn, S., & Martohardjono, G. (1996). Second language acquisition: Theoretical and experimental issues in contemporary research. *Behavioral and Brain Sciences, 19,* 677-714.

Eubank, L. (1994). Optionality and the initial state in L2 development. In T. Hoekstra & B. Schwartz (Eds.), *Language acquisition studies in generative grammar* (pp. 369-388). Amsterdam: John Benjamins.

Eubank, L. (1996). Negation in early German-English interlanguage: More valueless features in the L2 initial state. *Second Language Research, 12,* 73-106.

Ferreira, F., & Anes, M. (1994). Why study spoken language? In M. Gernsbacher (Ed.), *Handbook of psycholinguistics* (pp. 33-56). New York: Academic Press.

Fotos, S. (1994). Integrating grammar instruction and communicative language use through grammar consciousness raising tasks. *TESOL Quarterly, 28*, 323-351.

Fotos, S., & Ellis, R. (1991). Communicating about grammar: A task-based approach. *TESOL Quarterly, 25*, 605-628.

Froud, K. (2001). Prepositions and the lexical/functional divide: Aphasic evidence. *Lingua, 111*, 1-28.

Gass, S. (1994). The reliability of second-language grammaticality judgments. In E. Tarone, S. Gass, & A. Cohen (Eds.), *Research methodology in SLA* (pp. 303-322). Hillsdale, NJ: Lawrence Erlbaum.

Gass, S. (1997). *Input, interaction and the second language learner*. Mahwah, NJ: Lawrence Erlbaum.

Gass, S., & Madden, C. (1985). *Input in second language acquisition*. Cambridge, MA: Newbury House Publishers.

Gass, S., & Selinker, L. (1994). *Second language acquisition: An introductory course*. Mahwah, NJ: Lawrence Erlbaum.

Gass, S., & Selinker, L. (2001). *Second language acquisition: An introductory course*. Second edition. Mahwah, NJ: Lawrence Erlbaum.

Gass, S., & Varonis, E. (1994). Input, interaction and second language production. *Studies in Second Language Acquisition, 16*, 283-302.

Gavruseva, L., & Lardier, D. (1996). The emergence of extended phrase structure in child L1 acquisition. In A. Stringfellow, D. Cahana-Amitay, E. Hughes, & A. Zukowski (Eds.), *Proceedings of the 20th Annual Boston University Conference on Language Development* (pp. 225-236). Somerville, MA: Cascadilla Press.

Gianola, A. (2000). *Stories plus: Reading and activities for language Skills*. New York: New Readers Press.

Goldschneider, J., & DeKeyser, R. (2001). Explaining the "natural order of L2 morpheme acquisition" in English: A meta-analysis of multiple determinants. *Language Learning*, *51*(1), 1-50.

Green, P., & Hecht, K. (1992). Implicit and explicit grammar: An empirical study. *Applied Linguistics*, *13*, 168-184.

Greenslade,T., Bouden, L., & Sanz, C. (1999). Attending to form and content in processing L2 reading texts. *Spanish Applied Linguistics, 3*, 65-90.

Grondin, N., & White, L. (1996). Functional categories in child L2 acquisition of French. *Language Acquisition, 5*, 1-34.

Hall, R. (1966). *Pidgin and Creole languages.* Ithaca, NY: Cornell University Press.

Harley, B. (1993). Instructional strategies and SLA in early French immersion. *Studies in Second Language Acquisition*, *15*(2), 245-260.

Harley, B. (1994). Appealing to consciousness in the L2 classroom. In J. Hulstijn & R. Schmidt (Eds.), *Consciousness in second language learning* (pp. 57-68). AILA Review, Vol. 11.

Harley, B. (1998). The role of focus-on-form tasks in promoting child L2 acquisition. In C. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp. 156-174). New York: Cambridge University Press.

Harley, B., & Swain, M. (1984). The interlanguage of immersion students and its implications for second language teaching. In A. Davies, C. Criper, & A. Howatt (Eds.), *Interlanguage* (pp. 291-311). Edinburgh: Edinburgh University Press.

Hawkins, R. (2001). *Second language syntax: A generative introduction*. Oxford: Blackwell.

Haznedar, B. (2001). The acquisition of the IP system in child L2 English. *Studies in Second Language Acquisition*, *23*, 1-39.

Haznedar, B., & Schwartz, B. (1997). Are there optional infinitives in child L2 acquisition? In E. Hughes, M. Hughes, & A. Greenhill (Eds.), *Proceedings of the 22st Annual Boston University Conference on Language Development* (pp. 257-268). Somerville, MA: Cascadilla Press.

Heim, I. (1994). Comments on Abusch's theory of tense. In H. Kamp (Ed.). *Ellipsis, tense, and questions* (pp. 143-170). Amsterdam: John Benjamins.

Herschensohn, J. (1997). Parametric variation in French L2 speakers. In E. Hughes, M. Hughes, & A. Greenhill (Eds.), *Proceedings of the Twenty-first Annual Boston University Conference on Language Development* (pp. 281-292). Somerville, MA: Cascadilla Press.

Herschensohn, J. (1998). Minimally raising the verb issue. In A. Greenhill, M. Hughes, H. Littlefield, & H. Walsh (Eds.), *Proceedings of the 22nd Annual Boston University Conference on Language Development* (pp. 325-336). Somerville, MA: Cascadilla Press.

Herschensohn, J. (2000). *The second time around: Minimalism and L2 acquisition.* Amsterdam: John Benjamins.

Herschensohn, J. (2001). Missing inflection in L2 French: Accidental infinitives and other verbal deficits. *Second Language Research, 17*, 273-305.

Huddleston, R. (1984). *Introduction to the grammar of English*. New York: Cambridge University Press.

Huddleston, R., & Pullum, G. (2002). *The Cambridge grammar of the English language.* New York: Cambridge University Press.

Hulstijn, J., & de Graaff, R. (1994). Under what conditions does explicit knowledge of a second language facilitate the acquisition on implicit knowledge? A research proposal. *AILA Review, 11*, 57-68.

Hyams, N. (1996). The underspecifications of functional categories in early grammar. In H. Clahsen (Ed.), *Generative perspectives on language acquisition: Empirical findings, theoretical considerations, crosslinguistic comparisons* (pp. 91-127). Amsterdam: John Benjamins.

Ionin, T., & Wexler, K. (2002). Why is ‘is’ easier than ‘-s’?: Acquisition of tense/agreement morphology by child second language learners of English. *Second Language Research*, *18*(2), 95-136.

Izumi, S. (2002). Output, input enhancement, and the noticing hypothesis: An experimental study on ESL relativization. *Studies in Second Language Acquisition, 24*, 541-577.

Jensen, E., & Vinther, T. (2003). Exact repetition as input enhancement in second language acquisition. *Language Learning, 53*(3), 373-428.

Jourdenais, R. (1998). The effects of textual enhancement on the acquisition of the Spanish preterit and imperfect. Unpublished doctoral dissertation. Georgetown University, Washington, D. C.

Jourdenais, R., Ota, M., Stauffer, S., Boyson, B., & Doughty, C. (1995). Does textual enhancement promote noticing? A think-aloud protocol analysis. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 183-216). Honolulu: University of Hawaii Press.

Just, M., & Carpenter, P. (1992). A capacity theory of comprehension: Individual differences in working memory. *Psychological Review, 98*, 122-149.

Kamp, H., & Reyle, U. (1993). *From discourse to logic*. Dordrecht: Kluwer Academic Publishers.

Kato, A., Adamson, H., Unenaka, R., Stauffer, L., & Chu, L. (1999/2000). Interlanguage variation in the use of the English plural morpheme by Japanese ESL speakers: A comparison with Chinese ESL speakers. In W. Ashby, J. Heather, & T. Reber (Eds.), *Arizona Working Papers in Second Language Acquisition and Teaching* (pp. 1-16). Tucson: University of Arizona.

Kellerman, E. (1995). Age before beauty: Johnson and Newport revisited. In L. Eubank, L. Selinker, and M. Sharwood Smith (Eds.), *The current state of Interlanguage* (pp. 199-231). Amsterdam: John Benjamins.

Krashen, S. (1980). The input hypothesis. In J. Alatis (Ed.), *Current issues in bilingual education* (pp. 168-180). Washington, D. C.: Georgetown University Press.

Krashen, S. (1982). *Principles and practice in second language learning.* Oxford: Pergamon.

Krashen, S. (1985). *The Input Hypothesis: Issues and implications*. New York: Longman.

Lardiere, D. (1998a). Case and tense in the “fossilized” steady state. *Second Language Research, 14*, 1-26.

Lardiere, D. (1998b). Dissociating syntax from morphology in a divergent L2 end-state grammar. *Second Language Research, 14*, 359-375.

Lardiere, D. (1999). Suppletive agreement in second language acquisition. In A. Greenhill, H. Littlefield, & C. Tano (Eds.), *Proceedings of the 23rd Annual Boston University Conference on language development* (pp. 386-396). Somerville, MA: Cascadilla Press.

Lardiere, D. (2000). Mapping features to forms in second language acquisition. In J. Archibald (Ed.), *Second language acquisition and linguistic theory* (pp. 102-129). Oxford: Blackwell Publishers.

Larsen-Freeman, D., & Long, M. (1991). *An introduction to second language acquisition research*. London, UK: Longman.

Lee, J. (1986). On the use of the recall task to measure L2 reading comprehension. *Studies in Second Language Acquisition, 8*, 201-212.

Leeman, J. (2003). Recasts and second language development: Beyond negative evidence. *Studies in Second Language Acquisition, 25*, 37-63.

Leeman, J., Arteagoitia, I., Fridman, B., & Doughty, C. (1995). Integrating attention to form with meaning: Focus on form in content-based Spanish instruction. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 217-258). Honolulu: University of Hawaii Press.

Lefebvre, C. (1998). *Creole genesis and the acquisition of grammar: The case of Haitian Creole*. New York: Cambridge University Press.

Lenneberg, E. (1967). *Biological foundations of language*. New York: John Wiley & Sons.

Leow, R. (1997). Attention, awareness and foreign language behavior. *Language Learning, 47*, 467-505.

Lewis, M. (2002). *The English verb: An exploration of structure and meaning*. Boston, MA: Heinle.

Lightbown, P., & Spada, N. (1990). Focus on form and corrective feedback in communicative language teaching: Effects on second language learning. *Studies in Second Language Acquisition, 12*(4), 429-448.

Long, M. (1983). Does second language instruction make a difference? A review of the research. *TESOL Quarterly, 17*, 359-382.

Long, M. (1991). The design and psycholinguistic motivation of research on foreign language learning. In B. Freed (Ed.), *Foreign language acquisition research and the classroom* (pp. 309-320). Lexington, MA: Heath.

Long, M. (1996). The role of the linguistic environment in second language acquisition. In W. Ritchie & T. Bhartia (Eds.), *Handbook of second language acquisition* (pp. 413-468). San Diego: Academic Press.

Long, M. (2003). Stabilization and fossilization in interlanguage development. In C. Doughty & M. Long (Eds.), *The handbook of second language acquisition* (pp. 487-535). Malden, MA: Blackwell.

Long, M., & Robinson, P. (1998). Focus on form: Theory, research, and practice. In C. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition (*pp. 15-42). New York: Cambridge University Press.

Lund, R. (1991). A comparison of second language listening and reading comprehension. *The Modern Language Journal*, *75*, 196-204.

Luoma, S. (2004). *Assessing speaking*. Cambridge, UK: Cambridge University Press.

Lyster, R. (1994). The effect of functional-analytic teaching on aspects of French immersion students' sociolinguistic competence. *Applied Linguistics, 15*(3), 263-387.

Mandell, P. (1999). On the reliability of grammaticality judgment tests in second language acquisition research. *Second Language Research, 15*(1), 73-99.

Marinova-Todd, S. (2003). Know your grammar: What the knowledge of syntax and morphology in an L2 reveals about critical period for second/foreign language acquisition. In M. Garcia Mayo & M. Garcia Lecumberri (Eds.), *Age and the acquisition of English as a foreign language* (pp. 59-73). Clevedon, UK: Multilingual Matters.

Meisel, J. (1991). Principles of Universal Grammar and strategies of language use: On some similarities and differences between first and second language acquisition. In L. Eubank (Ed.), *Point-counterpoint: Universal Grammar in the second language* (pp. 231-276). Philadelphia: John Benjamins.

Meisel, J. (1997). The acquisition of the syntax of negation in French and German: Contrasting first and second language acquisition. *Second Language Research, 13*, 227-263.

Meisel, J., Clahsen, H., & Pienemann, M. (1981). On determining developmental stages in natural second language acquisition. *Studies in Second Language Acquisition, 3*, 109-135.

Montrul, S. (2000). Transitivity alterations in L2 acquisition: Toward a modular view of transfer. *Studies in Second Language Acquisition, 22*, 229-273.

Newport, E. (1984). Constraints on learning: Studies in the acquisition of American Sign Language. *Papers and Reports on Child Language Development, 23*, 1-22.

Norris, J., & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning, 50*, 417-528.

Norris, J., & Ortega, L. (2003). Defining and measuring SLA. In C. Doughty & M. Long (Eds.), *The handbook of second language acquisition* (pp. 717-761). Malden, MA: Blackwell.

Overstreet, M. (1998). Text enhancement and content familiarity: The focus of learner attention. *Spanish Applied Linguistics, 2*(2), 229-258.

Paradis, J., & Genesee, F. (1997). On continuity and the emergence of functional categories in bilingual first-language acquisition. *Language Acquisition, 6*, 91-124.

Perdue, C. (1984). *Second language acquisition by adult immigrants: A field manual*. Cambridge, MA: Newbury House.

Perdue, C. (Ed.) (1993). *Adult language acquisition: Cross-linguistic perspectives*. Cambridge, UK: Cambridge University Press.

Pica, T. (1983). Methods in morpheme quantification: Their effect on the interpretation of second language data. *Studies in Second Language Acquisition, 6*, 69-78.

Pienemann, M. (1984). Psychological constraints on the teachability of languages. *Studies in Second Language Acquisition, 6*, 186-214.

Pienemann, M. (1987). Determining the influence of instruction on L2 speech processing. *Australian Review of Applied Linguistics, 9*, 92-122.

Pienemann, M. (1989). Is language teachable? Psycholinguistic experiments and hypotheses. *Applied Linguistics, 10*, 52-79.

Pienemann, M. (2003). Language processing capacity. In C. Doughty & M. Long (Eds.), *The handbook of second language acquisition* (pp. 679-714). Malden, MA: Blackwell Publishing.

Prior, A. (1967). *Past, present, and future*. Oxford: Clarendon Press.

Prévost, P., & White, L. (2000). Missing surface inflection or impairment in second language acquisition? Evidence from tense and agreement. *Second Language Research*, *16*(2), 103-133.

Radford, A. (1990). *Syntactic theory and the acquisition of English syntax*. Oxford: Blackwell.

Radford, A. (1997). *Syntax: A Minimalist introduction.* Cambridge, UK: Cambridge University Press.

Radford, A. (2004). *Minimalist syntax: Exploring the structure of English*. Cambridge, UK: Cambridge University Press.

Ravid, D. (1995). *Language change in child and adult Hebrew: A psycholinguistic perspective.* New York: Oxford University Press.

Richardson, J. (1996). *Working memory and human cognition.* New York: Oxford University Press.

Roberts, L. (1997). *Comparative syntax*. London, UK: Arnold.

Robinson, P. (1995). Attention, memory and the ‘noticing’ hypothesis. *Language Learning, 45,* 283-331.

Robinson, P. (1997). Generalizability and automaticity of second language learning under implicit, incidental, enhanced, and instructed conditions. *Studies in Second Language Acquisition*, *19*, 223-247.

Robinson, P. (2003). Attention and memory during SLA. In C. Doughty & M. Long (Eds.), *The handbook of second language acquisition* (pp. 631-678). Malden, MA: Blackwell Publishing.

Rosa, E., & O’Neill, M. (1998). Effects of stress and location on acoustic salience at the initial stages of Spanish L2 processing. *Spanish Applied Linguistics, 2*, 24-52.

Rosa, E., & O’Neill, M. (1999). Explicitness, intake, and the issue of awareness: Another piece to the puzzle. *Studies in Second Language Acquisition, 21*, 511-556.

Saenger, P. (1991). The separation of words and the physiology of reading. In Olson D. & N. Torrance (Eds.), *Literacy and orality (*pp. 198-214). New York: Cambridge University Press.

Salsbury, T. (2000). *The acquisitional grammaticalization of unreal conditionals and modality in L2 English: A longtitudinal perspective*. Unpublished doctoral dissertation. Indiana University, Bloomington.

Sanz, C., & Morgan-Short, K. (2004). Positive evidence versus explicit rule presentation and explicit negative feedback: A computer-assisted study. *Language Learning, 54*(1*)*, 35-78.

Sato, C. (1986). Conversation and interlanguage development: Rethinking the connection. In R. Day (Ed.), *Talking to learn: Conversation in second language acquisition* (pp. 23-45). Cambridge, MA: Newbury House.

Sato, C. (1990). *The syntax of conversation in interlanguage development*. Tübingen: Gunter Narr.

Schlyter, S. (1990). The acquisition of French temporal morphemes in adults and in bilingual children. In J. Bernini & A. Giacalone Ramat (Eds.), *La temporalità nell′acquisizione di lingue seconde* (pp. 289-308). Milan: Franco Angeli.

Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics, 11*, 129-158.

Schmidt, R. (1993). Awareness and second language acquisition. *Annual Review of Applied Linguistics, 13*, 206-226.

Schmidt, R. (1994). Deconstructing consciousness: In search of useful definitions for applied linguistics. *AILA Review, 11*, 11-26.

Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning* (pp. 1-63). Honolulu: University of Hawaii Press.

Schmidt, R. (2001). Attention. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 3-32). New York: Cambridge University Press.

Schumann, J. (1987). The expression of temporality in basilang speech. *Studies in Second Language Acquisition, 9*, 21-41.

Schwartz, B. (1993). On explicit and negative data effecting and affecting competence and linguistic behavior. *Studies in Second Language Acquisition, 15*, 147-163.

Schwartz , B. (2003). Child L2 acquisition: Paving the way. In B. Beachley et al. (Eds.), *Proceedings of the 27th Annual Boston University Conference on Language Development* (pp. 25-50). Sommerville, MA: Cascadilla Press.

Schwartz, B., & Sprouse, R. (1994). Word order and nominative case in nonnative language acquisition: A longtitudinal study of (L1 Turkish) German interlanguage. In T. Hoekstra & B. Schwartz (Eds.), *Language Acquisition Studies in Generative Grammar* (pp. 317-368). Amsterdam: John Benjamins.

Schwartz, B., & Sprouse, R. (1996). L2 cognitive states and the full transfer/full access model. *Second Language Research*, *12*, 40-72.

Schwartz, B., & Sprouse, R. (2000). When syntactic theories evolve: Consequences for L2 acquisition research. In J. Archibald (Ed.), *Second language acquisition and linguistic theory* (pp. 156-186). London, UK: Blackwell.

Selinker, L. (1972). Interlanguage. *International Review of Applied Linguistics*, *10*(3), 209-231.

Sharwood Smith, M. (1981). Consciousness raising and second language learner. *Applied linguistics, 2*(2), 159-168.

Sharwood Smith, M. (1986). Comprehension versus acquisition: Two ways of processing input. *Applied Linguistics, 7,* 239-256.

Sharwood Smith, M. (1991). Speaking to many minds: On the relevance of different types of language information for the L2 learner. *Second Language Research, 7,* 118-132.

Sharwood Smith, M. (1993). Input enhancement in instructed SLA: Theoretical bases. *Studies in Second Language Acquisition*, *15*(2), 165-179.

Shook, D. (1994). FL/L2 reading, grammatical information and the input-to-intake phenomenon. *Applied Language Learning*, *5*(2), 57-93.

Singleton, D. (2003). Critical period or general age factor(s)? In M. Garcia Mayo & M. Garcia Lecumberri (Eds.), *Age and the acquisition of English as a foreign language* (pp. 3-22). Clevedon, UK: Multilingual Matters.

Slabakova, R. (2000). L1 transfer revisited: The L2 acquisition of telicity marking in English by Spanish and Bulgarian native speakers. *Linguistics, 38*, 739-770.

Smith, F. (2004). *Understanding reading: A psycholinguistic analysis of reading and learning to read*. Mahwah, N: Lawrence Erlbaum.

Spada, N. (1997). Form-focused instruction and second language acquisition: A review of classroom and laboratory research. State of the art article. *Language Teaching, 30*, 73-87.

Spencer, A. (1996). *Phonology: Theory and description*. Cambridge, MA: Blackwell Publishers.

Sprouse, R. (1998). Some notes on the relationship between inflectional morphology and parameter setting in first and second language acquisition. In M. Beck (Ed.), *Morphology and its interfaces in second language knowledge* (pp. 41-67). Amsterdam: John Benjamins.

Swain, M. (1984). A review of immersion education in Canada: Research and evaluation study. *Studies on immersion education: A collection for United States Educators*. Sacramento: California State Department of Education.

Swain, M. (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S. Gass & C. Madden (Eds.), *Input in second language acquisition: Series on issues in second language research* (pp. 235-253). Cambridge, MA: Newbury House.

Swain, M. (1991). French immersion and its offshoots: Getting two for one. In B. Freed (Ed.), *Foreign language research and the classroom* (pp. 91-103). Lexington, MA: Heath.

Swain, M., & Lapkin, S. (1995). Problems in output and the cognitive processes they generate: A step toward second language learning. *Applied Linguistics, 16*, 371-391.

Thomas, M. (1993). *Knowledge of reflexives in a second language*. Amsterdam: John Benjamins.

Thomas, M. (2002). Development of concept of “the poverty of the stimulus.” *The Linguistic Review, 19*, 51-71.

Tomasello, M., & Heron, C. (1998). Down the garden path: Inducing and correcting overgeneralization errors in foreign language classroom. *Applied Psycholinguistics, 9*, 237-246.

Tomasello, M., & Heron, C. (1999). Feedback for language transfer errors: The garden path technique. *Studies in Second Language Acquisition, 11,* 385-395.

Tomlin, A., & Villa, V. (1994). Attention in cognitive science and second language acquisition. *Studies in Second Language Acquisition, 16,* 183-203.

Trahey, M., & White, L. (1993). Positive evidence and preemption in the second language classroom. *Studies in Second Language Acquisition, 15*(2), 181-204.

Vacco, E., & Jablon, P. (2003). *At work in the U. S.: Readings and language for job success*. New York: New Readers Press.

Vainikka, A., & Young-Scholten, M. (1994). Direct access to X'-theory: Evidence from Korean and Turkish adults learning German. In T. Hoekstra & B. Schwartz (Eds.), *Language Acquisition Studies in Generative Grammar* (pp. 265-316). Amsterdam: John Benjamins.

Vainikka, A., & Young-Scholten, M. (1996). Gradual development of L2 phrase structure. *Second Language Research, 12,* 7-39.

Vainikka, A., & Young-Scholten, M. (1998). Morphosyntactic triggers in adult SLA. In M. Beck (Ed.), *Morphology and its interfaces in second language knowledge* (pp. 89-113). Amsterdam: John Benjamins.

VanPatten, B. (1990). Attending to content and form in the input: An experiment in consciousness. *Studies in Second Language Acquisition, 12,* 287-301.

VanPaten, B. (1995). Cognitive aspects of input processing in second language acquisition. In P. Hashemipour, R. Maldonado, & M. van Naerssen (Eds.), *Studies in language acquisition and Spanish in honor of Tracy D. Terrell* (pp. 170-183). New York: McGraw-Hill.

VanPatten, B. (1996). *Input processing and grammar instruction*: *Theory and research.* Norwood, NJ: Ablex.

VanPatten, B. (2000). Processing instruction as form-meaning connections: Issues in theory and research. In J. Lee & A. Valdman (Eds.), *Form and meaning: Multiple perspectives* (pp. 43-68). AAUSC Issues in Language Program Direction. Boston, MA: Heinle & Heinle.

VanPatten, B. (2003). *From input to output: A teacher's guide to second language acquisition.* New York: McGraw-Hill.

VanPatten, B. (2004). Input processing in second language acquisition. In B. VanPatten (Ed.), *Processing instruction: Theory, research, and commentary* (pp. 5-31). Mahwah, NJ: Laurence Erlbaum.

VanPatten, B., & Cadierno, T. (1993). Explicit instruction and input processing. *Studies in Second Language Acquisition, 15*(2), 225-241.

VanPatten, B., & Sanz, C. (1995). *From input to output in second language acquisition: Theory and Pedagogy*. Mahwah, NJ: Lawrence Erlbaum.

VanPatten, B., Williams, J., & Rott, S. (2004). Form-meaning connections in second language acquisition. In B. VanPatten, J. Williams, S. Rott, & M. Overstreet

(Eds.), *Form-meaning connections in second language acquisition* (pp. 1-26). Mahwah, NJ: Lawrence Erlbaum.

Van Riemsdijk, H. (1999). Clitics: A state-of the art report. In H. van Riemsdijk (Ed.), *Clitics in the Languages of Europe* (pp. 1-33). Berlin: Mouton de Gruyter.

von Stutterheim, C. (1991). Narrative and description: Temporal reference in second language acquisition. In T. Huebner & C. Ferguson (Eds.), *Crosscurrents in second language acquisition and linguistic theories* (pp. 385-403). Amsterdam: Benjamins.

Wekker, H. (1976). *The expression of future time in contemporary British English*. Amsterdam: North-Holland Publishing Company.

White, L. (1987). Against comprehensible input: The Input Hypothesis and the development of second language competence. *Applied Linguistics, 8,* 95-110.

White, L. (1989). *Universal Grammar and second language acquisition*. Amsterdam: John Benjamins.

White, J. (1998). Getting the learner's attention: A typographical input enhancement study. In C. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp. 85-113). New York: Cambridge University Press.

White, L. (2000). Second language acquisition: From initial to final state. In J. Archibald (Ed.), *Second language acquisition and linguistic theory* (pp.130-155). Oxford: Blackwell.

White, L. (2002). Morphological variability in endstate L2 grammars: The question of L1 influence. In A. Do, S. Fish, & B. Skarabela (Eds.), *Proceedings of the 26th Annual Boston University Conference on Language Development* (pp. 758-768). Somerville, MA: Cascadilla Press.

White, L. (2003). *Second language acquisition and Universal Grammar*. New York: Cambridge University Press.

Williams, J. (1995). Focus on form in communicative language teaching: Research findings and the classroom teacher. *TESOL Journal, 4*, 12-16.

Williams, J. (1999). Memory, attention and inductive learning. *Studies in Second Language Acquisition, 21*, 1-48.

Williams, J. (2001). Learner-generated attention to form. In R. Ellis (Ed.), *Form-focused instruction and second language learner* (pp. 303-346). Malden, MA: Blackwell

Williams, J., & Evans, J. (1998). What kind of focus and on which forms? Focus on form in classroom second language acquisition. In C. Doughty & J. Williams (Eds.), *Focus on Form in classroom Second Language Acquisition* (pp.139-154). New York: Cambridge University Press.

Wong, W. (2001). Modality and attention to meaning and forming the input. *Studies in Second Language Acquisition, 23*, 345-368.

Young, R. (1991). *Variation in interlanguage morphology*. New York: Peter Lang.

Zobl, H., & Liceras, J. (1994). Functional categories and acquisition orders. *Language Learning, 44*, 159-180.

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